

E. F. PRENTISS.

Improvement in Apparatus for Rectifying and Distilling Spirits, &c.

No. 133,053.

Patented Nov. 12, 1872.

Fig. 2.

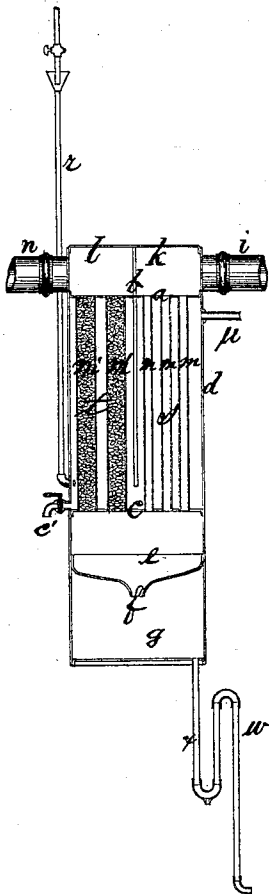
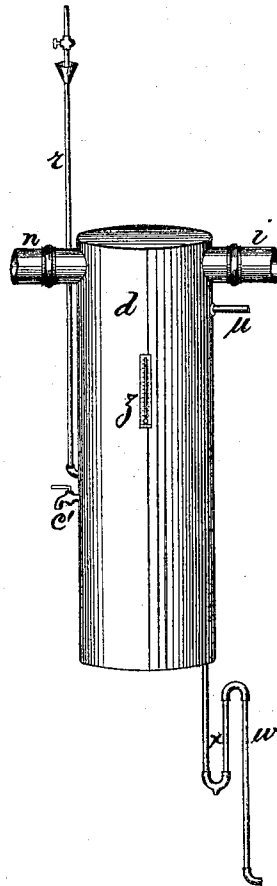


Fig. 1.



Witnesses.

W. Moore

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E. FREEMAN PRENTISS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN APPARATUS FOR RECTIFYING AND DISTILLING SPIRITS, &c.

Specification forming part of Letters Patent No. 133,053, dated November 12, 1872.

To all whom it may concern:

Be it known that I, E. FREEMAN PRENTISS, of Philadelphia, Pennsylvania, now residing in Sarnia, Province of Ontario, in the Dominion of Canada, have invented an Improvement in Apparatus for Rectifying and Distilling Spirits and other volatile liquids, of which the following is a specification:

My improvement relates to the apparatus for which Letters Patent 87,792 were granted to Thomas D. Prentiss and myself March 16, 1869; and it consists of a condenser constructed as hereinafter described, designed to take the place of the secondary condenser *d* described and shown in the specification and drawing of said Letters Patent.

In the drawing annexed, Figure 1 represents an elevation of my improved condenser and of parts of the two pipes *i* and *n* by which it is intended to be connected on one side with the primary condenser *c* and on the other side with the final condenser *e*, as described and shown in the specification and drawing of said Letters Patent. Fig. 2 is a vertical section of the condenser, the pipes *i* and *n* being in elevation.

The condenser *d* is a cylinder of copper tinned inside. The chamber above the false top *a* is divided into two parts, *k* and *l*, by the vertical partition *b*, which extends down to within a few inches of the false bottom *c*, dividing the space inclosed between said top and bottom into two compartments, *s* and *t*, united at the bottom, as shown in Fig. 2. *m* and *m'* are vertical pipes connecting the top and bottom chambers of vessels *d*. The pipes *m'* are filled with pumice-stone broken into small fragments of about the size of chestnuts for atomizing the vapors. Wire-cloth or perforated plate of tinned copper is fastened over the lower ends of tubes *m'* to retain the pumice-stone and allow the spirits and vapors to pass freely. *e* is a concave diaphragm placed about three (3) inches below the bottom *c* and having a small aperture, *f*, in its center, to allow any condensed spirits and the fusil oil and other impurities to pass down into the chamber *g*, and thus separate such impurities from the vapors. *e'* is a stop-cock for emptying the condenser. *r*, Fig. 2, is a pipe by which the wash is admitted into compartment *t*. This pipe is pro-

vided with a stop-cock for regulating the inward flow of the wash. *u* is a pipe for conveying the wash from compartment *s* into the vapor-generator, as described in the schedule of said Letters Patent. *z* is a thermometer connected with compartment *t*. *w* is a pipe bent so as to form a trap, *x*, for conveying the fusil oil and other impurities with the condensed vapors from the bottom chamber *g* below the concave diaphragm *e* from time to time directly into the vapor-generator marked *a* in the drawing of said Letters Patent, instead of leading them into the generator marked *b* in the drawing last mentioned. The pipe *w* is provided with a stop-cock, not shown, but preferably located near the vapor-generator *a*, last referred to. The pipes *m'* are about two (2) inches in diameter, but are intended to be increased in size and number, according to the size of the condenser. The space below the false bottom *c* is enlarged in size as compared with the bottom chamber shown and described in the specification and drawing of said Letters Patent. This space should be large enough to hold the impurities condensed during the working of a charge, which would be from fifteen to twenty minutes. For a ten-barrel still it should have a capacity of about two gallons.

The several parts, the proportions of which are not herein stated, have the same proportions as are given for similar parts described and shown in said specification and drawing.

I claim—

1. The concave diaphragm *e*, arranged below the false bottom *c* for conducting into the chamber *g* and separating the fusil oil and other impurities from the vapors, substantially as set forth.

2. The pipes *m'*, filled with broken pumice-stone, or its equivalent, to atomize the vapors, in combination with the pipes *m* and the chambers at top and bottom of the condenser, substantially as set forth.

3. The diaphragm *e* and bottom chamber *g*, in combination with the trap-pipe *w* for separating the impurities and conveying them into the vapor-generator, substantially as set forth.

E. FREEMAN PRENTISS.

Witnesses:

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W. MOORE.