A. F. W. NEYNABER.

STEAM-STILL.

No. 180,260. Patented July 25, 1876.

Fig. 1.

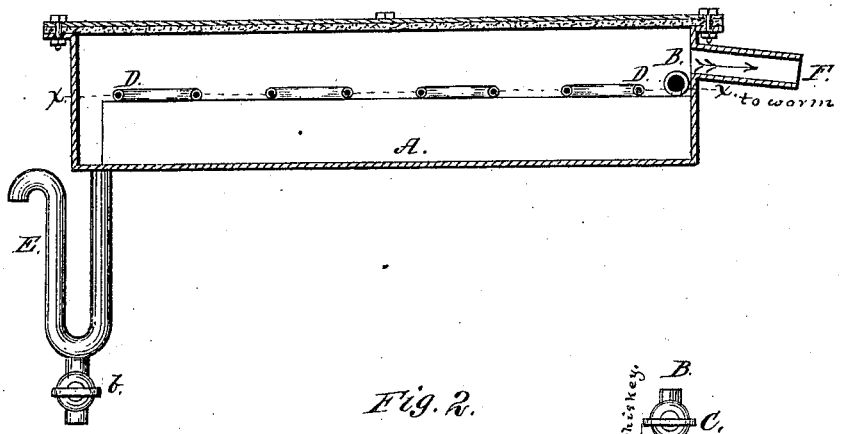


Fig. 2.

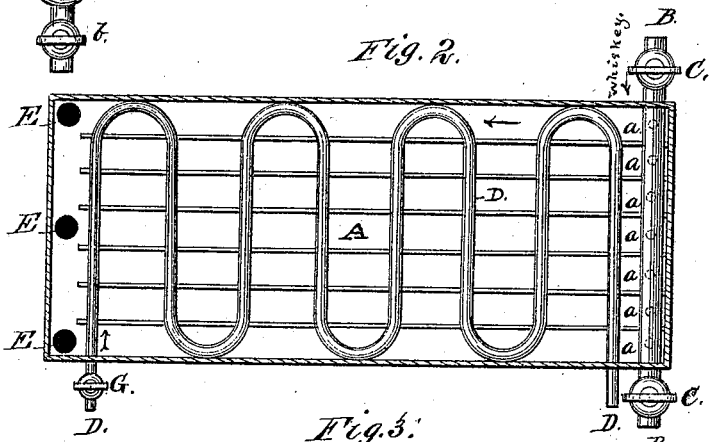
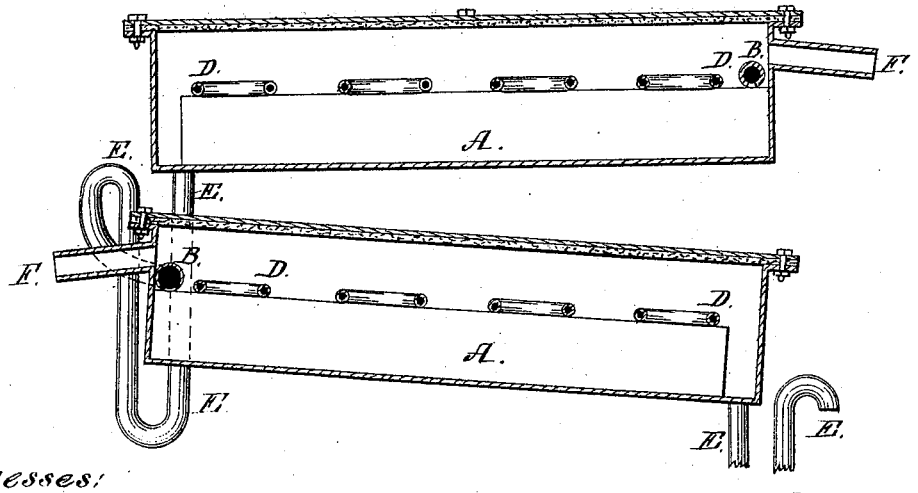


Fig. 3.



Witnesses:

Inventor:

A. F. W. Neynaber

UNITED STATES PATENT OFFICE

ADOLPHUS F. W. NEYNABER, OF NEW YORK, N. Y.

IMPROVEMENT IN STEAM-STILLS.

Specification forming part of Letters Patent No. **180,260**, dated July 25, 1876; application filed November 22, 1875.

To all whom it may concern:

Be it known that I, ADOLPHUS F. W. NEYNABER, of New York city, county of New York, State of New York, have invented an Automatic Steam-Still, of which the following is a specification:

The object of my invention is a better and more perfect separation of alcohol (spirit) from the water and fusel-oil contained in the crude distillate of mash—*i. e.*, whisky—by avoiding, in the first place, the evaporation of such water and fusel-oil, and thereby simplifying the whole process, inasmuch as a separation of such water and fusel-oil will not be required in the condensation of the vapors afterward.

The main feature of this invention is to so construct the apparatus that the highest temperature is over the whisky, and at the outlet of the vapor, but not underneath the whisky, nor the whisky brought into direct contact with the pipes inclosing the live steam.

The object of this invention is accomplished by putting a steam-coil into an ordinary still over the whisky, extending the heating-pipes all over the surface of whisky, but leaving sufficient space between the bottom of the still and the steam-pipes to avoid a direct contact of the whisky with the steam-pipes above.

An oblong still is so constructed that the outlet for vapor is at the same end where the whisky is forced into the apparatus by means of a pipe giving out a spray falling into channels, so as to divide the whisky more equally over the surface, and having on the same end the steam entering a pipe coiling to the opposite end, by which arrangement steam will pass like a serpent in the same direction as the whisky flows, as shown in the vertical longitudinal section, Figure 1, and in the horizontal longitudinal section, Fig. 2, indicated in Fig. 1 by lines *x x* of the accompanying drawing; or an oblong still may be constructed without compartments, and without spray-pipe B, allowing a certain charge to enter the still through a pipe with full opening in place of holes *a a*, and, after the alcohol has been taken off, allowing the water and fusel-oil to run off through pipe E, which should be provided, for such purpose, with a stop-cock, to retain the whisky until exhausted.

If an oblong still is put into such a position as to bring bed A in level, and one or two barrels or tanks filled with whisky will be connected with pipe B, cock C opened sufficiently, a spray of whisky will be forced through holes *a* of pipe B on bed A, and will, when it reaches the opposite end of a bed of sufficient length, be deprived of its alcohol, if the flow of whisky has been properly regulated in proportion to the length of bed A, and the proper heat has been applied by regulating cock G.

The water and fusel-oil will run off through pipe E, of which there may be one or more, Fig. 2.

Cock *b* is used for cleaning pipe E. In this case there should be also a stop-cock for pipe E, so that the flow of liquid through E may be stopped, if desired.

It will be evident that the whisky, as it is distributed over a very large surface, is quickly deprived of its alcohol by means of the heat right over it, radiating from heating apparatus D, the water and fusel-oil being retained on the bed or bottom, in consequence of the lower temperature of the bed, while any recondensation of alcohol once transformed into vapor is prevented in the still through the heat radiated and conducted from the heating apparatus D to outlet F, carrying off the vapor of alcohol.

I claim as my invention—

1. The combination of distilling-chamber A, having one or more liquor-outlets, E, and a liquor-inlet, the steam-pipe D in the upper part of the chamber, and above the surface of the liquor in the chamber, and having an inlet near the liquor outlet or outlets, whereby only surface-distillation is effected, as set forth.

2. The combination of chamber A, having liquor-outlet and longitudinal divisions, with perforated liquor-inlet and inclosed steam-pipe D above the surface of liquor in the still, as and for the purpose set forth.

A. F. W. NEYNABER.

Witnesses:

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