

D. G. RUSH.
Alcohol-Stills.

No. 156,949.

Patented Nov. 17, 1874.

Fig. 1.

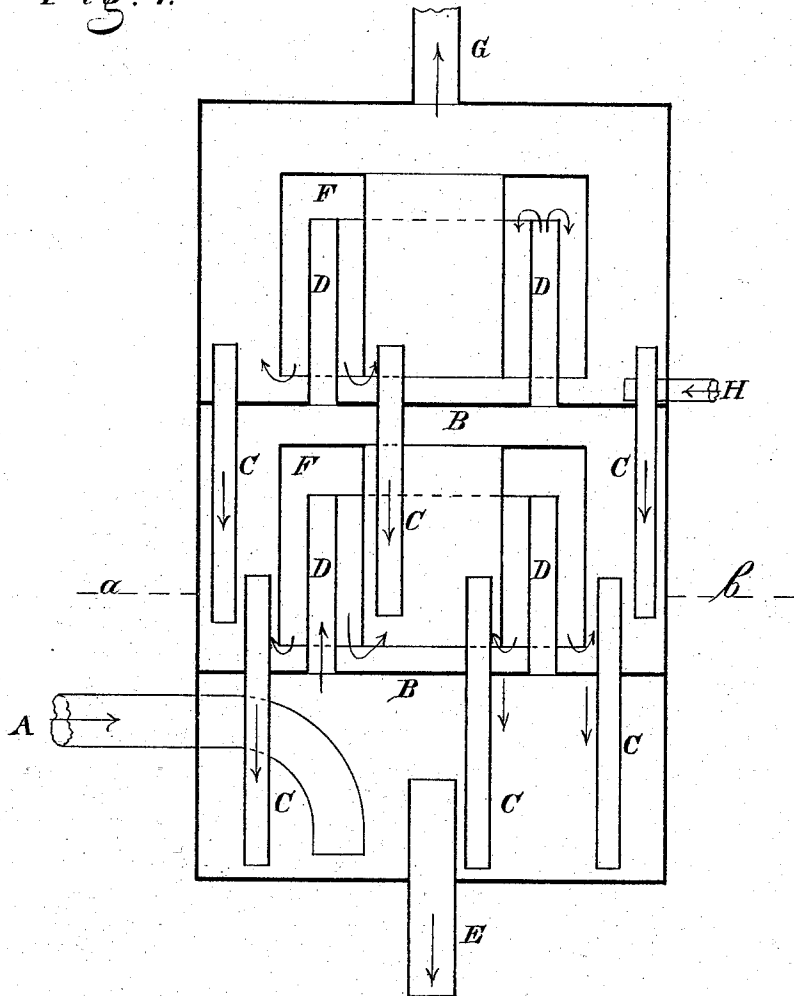
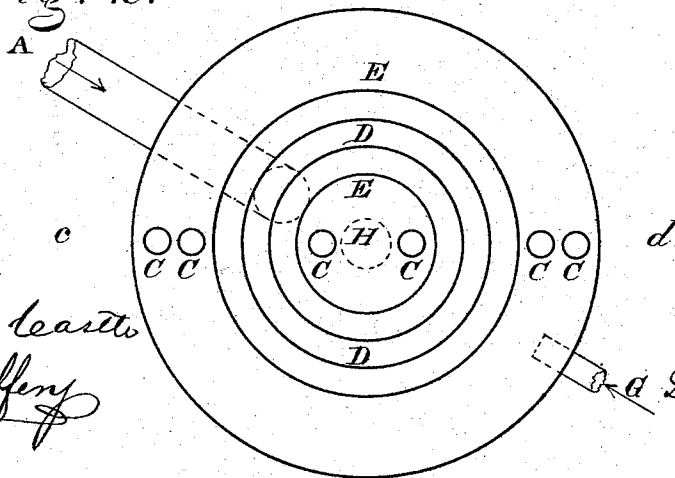


Fig. 2.



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UNITED STATES PATENT OFFICE.

DAVID G. RUSH, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN ALCOHOL-STILLS.

Specification forming part of Letters Patent No. **156,949**, dated November 17, 1874; application filed June 10, 1874.

CASE D.

To all whom it may concern:

Be it known that I, DAVID G. RUSH, of Chicago, county of Cook and State of Illinois, have invented certain Improvements in Constructing Water-Baths in Alcohol-Columns, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to conduct spirit vapors into the water-baths of an alcohol-column through long, narrow, and continuous openings in the diaphragms of the column. These diaphragms in all alcohol-columns are commonly known as water-baths, although the liquid contained in them is spirituous. The narrow opening in the diaphragm is mounted by a continuous scroll-like cap, deflecting the vapor on both sides of the opening and cap in thin sheets, and delivering it in the bath widely distributed, so that the vapor shall be thoroughly incorporated with the liquid in the bath, and not be driven through the bath by displacing the liquid.

In manufacturing alcohol, the spirit vapor is passed through a column having a number of baths of a graduated temperature, lower at the top than at the bottom. The alcohol, vaporizing at a lower temperature than water and other impurities, will rise out of the baths, being successively increased in strength; but, when the vapor is driven through the bath, the effect of the baths is greatly lost.

The device is illustrated more in detail in the plan view, Figure 1 representing a sec-

tional view of an alcohol-column with two improved diaphragms or baths.

A working column should have not less than fourteen such baths.

A represents the pipe through which the alcoholic vapor enters the column. B B are the water-baths, with narrow continuous openings D D. C C C C C C are return-pipes, through which the water and impurities flow down, and pass out of the column through pipe E. F F represent the scroll-like caps, dividing the ascending vapor and deflecting it in thin sheets on both sides of the openings, where it enters the bath. G is the pipe through which the alcohol-vapors pass from the column to an ordinary goose, and H is a pipe through which the liquid condensed in the goose flows back in the column.

Fig. 2 is a horizontal view of the diaphragm and appurtenances, with the several connections of the column in perspective, marked by the appropriate letters by which they were described.

I claim as my invention—

The long narrow continuous or circular openings with double deflecting-cap, dividing the vapor into thin sheets, and delivering the vapor in the water-baths for an alcohol-column on two sides of the cap, substantially as described.

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