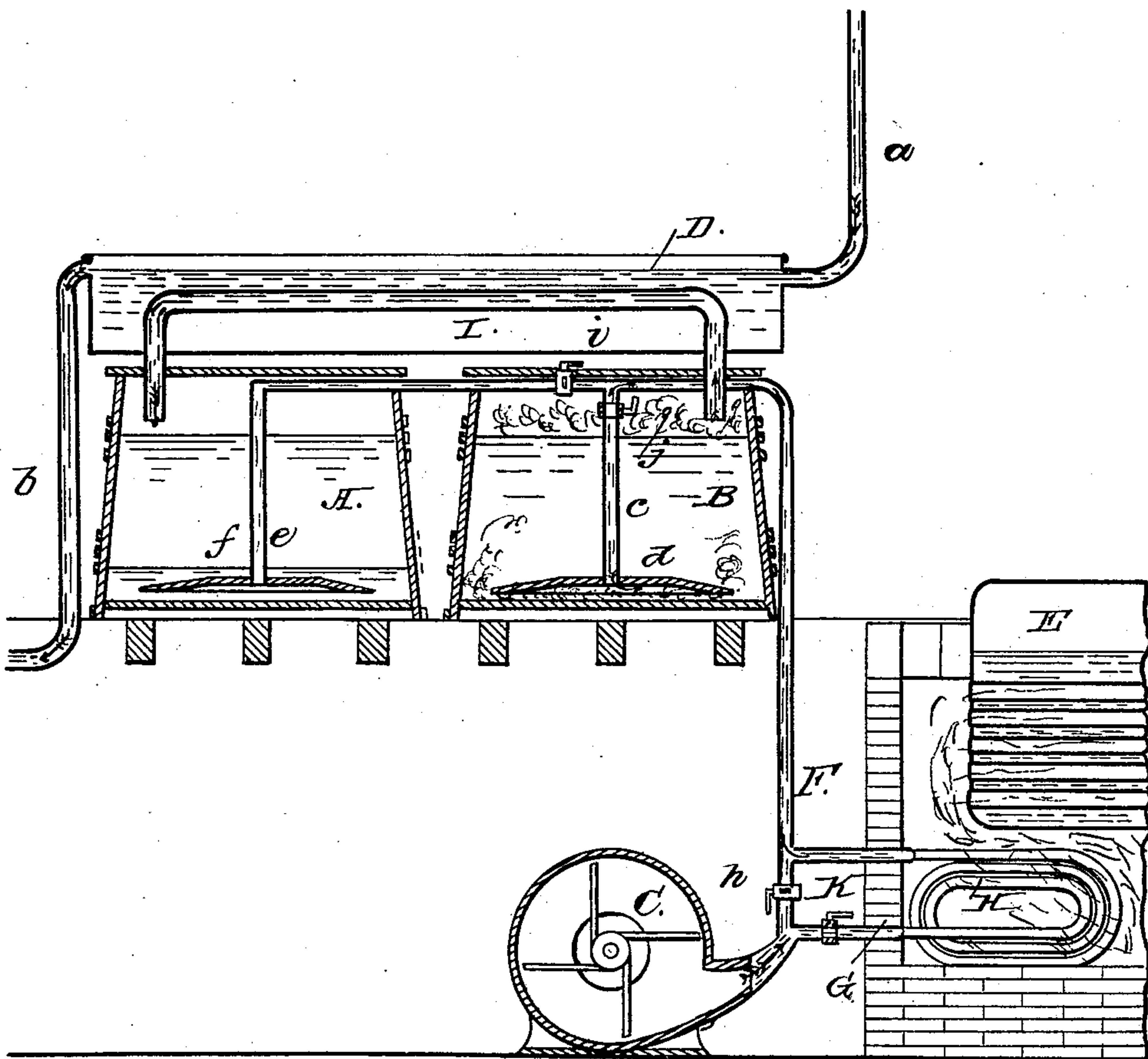


W. P. VALENTINE.
Aging and Refining Liquors.

No. 79,616.

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witnesses
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Letters Patent No. 79,616, dated July 7, 1868.

IMPROVEMENT IN REFINING AND PURIFYING SPIRITUOUS LIQUORS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, W. P. VALENTINE, of Buffalo, in the county of Erie, and State of New York, have invented certain new and useful Improvements for Refining, Mellowing, and Purifying Spirituous Liquors; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, like letters indicating like parts wherever they occur.

To enable others skilled in the art to construct and use my invention, I will proceed to describe it.

My invention consists in a novel process for ripening spirituous liquors as they come new from the still, or before they have become mellowed with age.

The drawing, Figure 1, represents a transverse vertical section of my devices for carrying on my process.

It is well known that all spirituous liquors, when they come new from the still, have a flat, unpleasant taste, and for a long time after their manufacture do not acquire the oily smoothness and rich flavor which so much enhance their value in the market. These desirable qualities are believed to be imparted by age, or by changes of temperature, and agitation. For this reason spirituous liquors that have been carried in vessels making voyages across the ocean, and to ports lying in different latitudes, are believed to possess finer qualities than those that are new and have not been carried about in this manner.

When spirituous liquors have acquired these valuable qualities of oily softness and richness of flavor and mellowness, they are said to be ripened, and this result is supposed to be produced by time, agitation, and evaporation.

My object is to produce similar results in a shorter time, by a process entirely novel, and carried on by peculiar and suitable devices.

I make two strong tubs, A and B, of any size desired, with openings on top, and so constructed that, when closed, they will be air and steam-tight. Over these tubs A and B, in any convenient place to answer the purpose, I place a water-chamber, D, with a pipe, *a*, entering it on one side, and a pipe, *b*, leading from it on the other, so that it may be kept constantly full of cold water, when desired, the water entering into and leaving the chamber, as shown by the arrows in the drawing. In this chamber D, I place a copper pipe, I, bent and arranged so that its ends will open into the upper parts of the tubs A and B respectively, as shown in the drawing, and so that there may be no passage of air or steam about them when they enter the tubs.

In connection with the engine and boiler, E, used in the still, or put up for the purpose, I set a blower, C, and provide it with an air-pipe, F, which leads into the upper part of the tubs A and B, and passing along immediately under their covers, as shown in the drawing. To this pipe F, I attach copper pipes, *c* and *e*, so as to extend vertically downwards through the centres of the tubs A and B, and nearly to the inner surface of their bottoms, and provide their lower ends with concave copper disks, *d* and *f*, as shown in the drawing, with the concave of the disks downwards.

A short distance from the point where the pipe F leaves the blower C, I attach or connect with it a pipe, G, provided with coils, H, which are placed in the flues of the furnace under the boiler E, so that the flames from the furnace may pass about and around them. This pipe G, after being provided with the coils H, has its opposite end connected to the pipe F, for the purpose as hereinafter explained, and as shown in the drawing.

In the pipe F, I place two cocks, one, *i*, in that part of the pipe within the tub B, and between the points where the vertical pipes *c* and *e* are connected with it, and one, *h*, between the points where the pipes G connect with it. The upper part of the vertical pipe *e*, I provide with a cock, *j*.

In operating my apparatus, I let the cold water into the chamber D through the pipe *a*, and fill the tub B nearly full of the liquor to be handled or operated upon for ripening, and close it up tight. Then turn the cocks *h* and *i*, in the pipe F, so that the passage of the air through it will be through the pipe G and its coils H. The blower C is then put in motion, the air passes into the pipe G, when it is heated, and then passes on through the pipes F and *e*, passes out under the disk *d*, flows to its edges, and then rises up through the liquor. The hot air,

in passing in this manner through the liquor, comes in contact with its particles, thoroughly agitates the whole mass, and in a short time heats it. As soon as it is heated to the temperature of 90° Fahrenheit, I turn the cocks *h* and *k*, so that the air from the blower C may pass directly to the tub B, without being heated. This cold air, in like manner, passes through the liquor, cools it, or reduces its temperature to that of air. When this is done, I then turn in the hot air, as before, till the temperature is raised to 90°, as in the first instance, and then turn in the cold air, as before.

This process I continue for a period of about twenty-eight days. While it is going through this process, the air and steam rising from the surface pass up and on through the pipe *a*, in which the steam is condensed, to the tub A, which has an opening to permit the escape of the air; and during the time the liquor is being ripened in the tub B, the tub A can be filled directly from the still, or otherwise.

As soon as the process is completed on the liquor in the tub B, the tub A is ready, and all that is necessary to do is simply to adjust the cocks in the pipes, and in this way the operation may be continued with little or no interruption.

Instead of one pair of tubs, as shown, it is obvious that a number of pairs may be used, and in this way either a large quantity of liquor or different kinds or qualities may be ripened at the same time.

In the construction of my apparatus it is obvious that the pipe F, instead of passing within or under the cover of the tubs, as shown, may pass outside, and have the vertical pipes passing down through the liquor pass through the covers of the tubs. By this arrangement all of the cocks in the pipes are conveniently under the control of the operator.

By means of this process carried by my apparatus, I am able, within a period of twenty-eight days, to impart to new liquors right from the still, or to liquors recently manufactured, the fine and rich flavor they acquire by age or by being carried about on shipboard, and this, too, at a comparatively trifling expense.

My process not only ripens the liquor, but also purifies it, causing some impurities to be thrown off, as well as some matters that are injurious.

Having thus described my invention, what I claim, is—

1. The process of ripening, mellowing, and purifying spirituous liquors, by the use of hot and cold air alternately, substantially as herein described.

2. The apparatus, consisting of the tubs A and B, the chamber D, with pipe I, blower C, and pipe F, with its connecting or branch-pipe G, for heating air, and pipes *c* and *e*, with concave disks *d* and *f*, for delivering air, whether hot or cold, near the bottom of the tubs A and B, the whole constructed and arranged to operate substantially as herein described, and for the purpose set forth.

W. P. VALENTINE.

Witnesses:

A. PELLETIER,
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