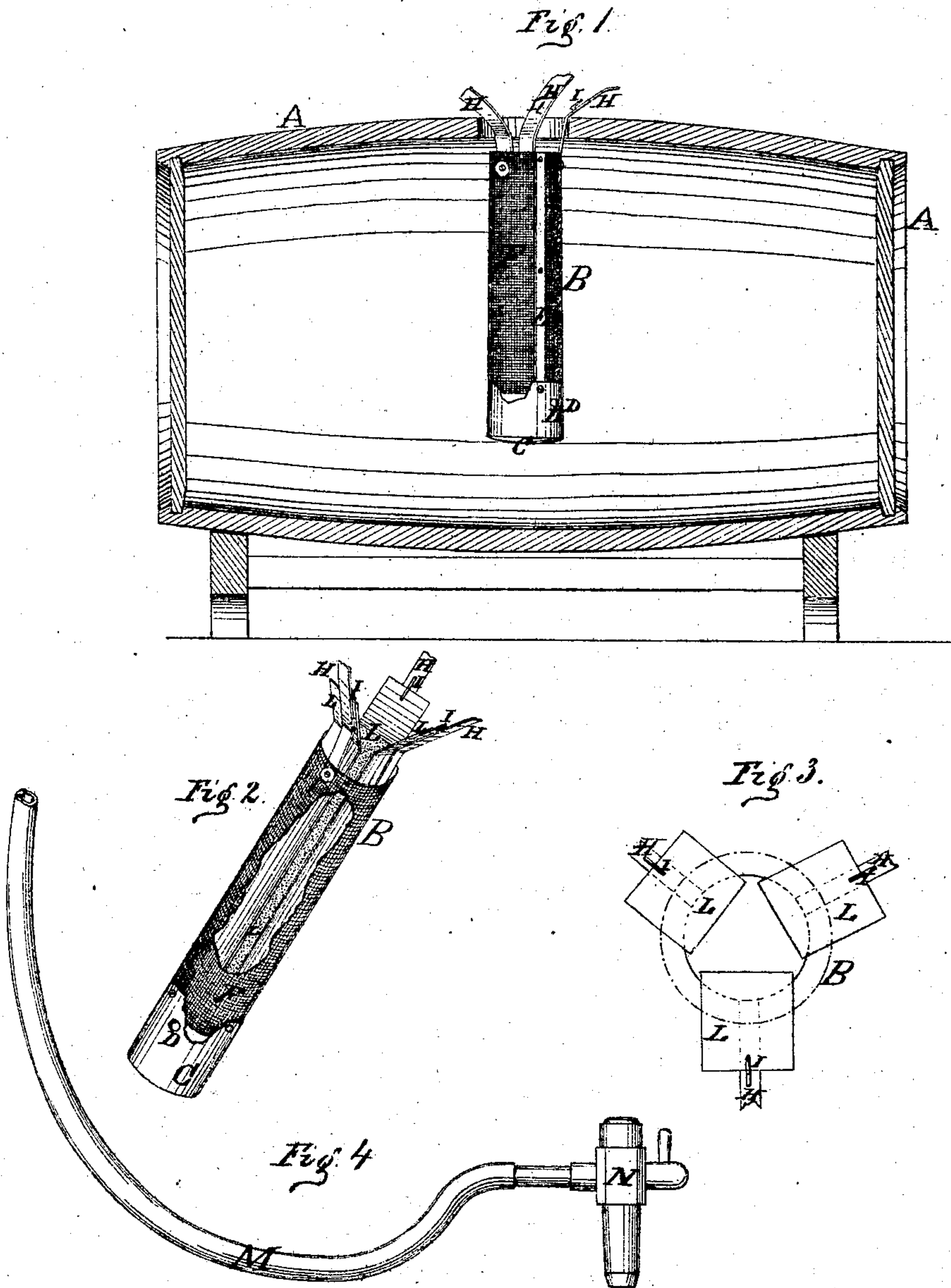


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Improvement in the Treatment of Saccharine Liquids.

No. 116,102.

Patented June 20, 1871.



Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE L. RUNDLE, OF GREENVILLE, NEW YORK.

IMPROVEMENT IN THE TREATMENT OF SACCHARINE LIQUIDS.

Specification forming part of Letters Patent No. 116,102, dated June 20, 1871.

To all whom it may concern:

Be it known that I, GEORGE L. RUNDLE, of Greenville, in the county of Greene and State of New York, have invented a new and useful Improvement in Treating Saccharine Fluids, of which the following is a specification, reference being had to the accompanying drawing.

Nature and Objects of the Invention.

The invention relates to the treatment of cider or other saccharine fluids with the combined vapors of burning brimstone, benzoin, and kino in a cask or vessel, the interior surfaces of which have been subjected to impregnation by said vapor. The object of the invention is to preserve the fluid treated in a similar condition of acidity or sweetness to that in which it may be at the inception of its treatment as above, and at the same time to supply it with a fixed flavor of agreeable nature.

Description of the Drawing.

Figure 1 is a vertical longitudinal section of a cask provided with the means of effecting the object of the invention. Fig. 2 is a perspective view of the fumigator, a portion of the same broken out. Fig. 3 is a top or plan view of the same, showing the method of suspending the pastils. Fig. 4 is a view of the hose and spigot used in the process.

General Description of Mechanical and Chemical Agents.

A in the accompanying drawing represents a cask provided with a bung-hole, bung-spill, and vent, and supported upon a stilling or truss. B is a fumigator, having a cup, C, which consists of sheet metal, its bottom being solid and movable. Its sides rise vertically from the bottom to the desired height, and are perforated with a proper number of apertures, D. It has, also, a vertical arm, E, projecting upward. This cup incloses the lower portion of a wire-gauze or perforated metallic cylinder, F, the lower extremity of which is located above the perforations D, and is permanently secured to the cup C; also to the arm E, which extends to the upper edge of the cylinder F. Three or more flat arms or supports, H, are secured at the three lower ends, at equal distances apart, to the interior of the upper part

of the cylinder F, and extend upward and outward a proper distance, where they are bent to a proper angle, so that when the fumigator, Fig. 2, is introduced into the cask through the bung-hole, that portion of the arms H above the angle may come in contact with the adjacent parts of the cask, and the bung be inserted between the interior faces of the arms. The portion of the arm H intended to be outside of the cask A is provided with a hook or peg, I, on its upper surface, over which the end of the pastil is passed. The pastil L is prepared as follows: A strip of cloth or other suitable material of proper length and width is immersed in melted brimstone, then coated thinly with a powder of equal parts of ground kino and benzoin, and when dried is punctured with a proper number of holes, leaving such portion of the cloth untreated as will reach from the top of the cylinder F along the upper surface of the arm H to and slightly beyond the hook I, over which it is passed, and thereby suspended upon the arm H and within the cylinder F. The hose M is of ordinary construction, and is provided at one end with a spigot, N, by means of which the supply of fluid may be determined when desired.

General Description of Process.

While the invention is pertinent to many varieties of saccharine fluids, in the present instance its operation is described, for convenience of illustration, as applied to the treatment of cider. The cider, immediately after expression, is filtered, to remove as much solid or foreign material as possible. The cask or other receptacle intended to receive the liquor during treatment is thoroughly rinsed with the cider; the fumigator, Fig. 2, provided with the pastil, as above described, suspended by the hook I within the cylinder F; the bottom C of the cup being removed, the pastil L is fired from below; the bottom of the cup replaced, the fumigator introduced into the cask through the bung-hole, and a bung fitted into the bung-hole between the arms H; the spill being withdrawn all surplus gas passes off thence, and the pastil burns until the air in the cask is consumed or expelled and replaced by sulphurous-acid gas impregnated with the vapors of kino and benzoin. When the pastils will burn no longer, the fumigator is re-

moved and the bung and spill driven tightly to place; the cask is allowed to remain thus closed for one hour, and is then in condition to receive the cider as above filtered. Upon being filled it is placed upon a firm stilling elevated a proper height from the ground. About two gallons of cider is now drawn with a siphon-hose and the finings are introduced. The finings employed in this invention are the running blood of freshly-killed lambs, which is thoroughly beaten up and then introduced, the liquor having been previously well roused. The froth settling somewhat, the cask should be replenished to the bung-hole, the bung replaced tightly, and the contents allowed to remain until the finings shall have been deposited at the bottom of the cask. Another cask having been prepared, in the manner above described as to the preparation of that intended to primarily receive the cider, the same is racked into the second cask by means of a siphon-hose adjusted in the liquor above the upper surface of the lees. Another light coat of finings is now added, and another racking completes the process of the application of the invention to the preparation and preservation of the liquor known as sweet cider.

In the process as applied to cider which has undergone a vinous fermentation, the saccharine matter being converted into alcohol and carbonic-acid gas, it having become what is known as "dry" or "hard" cider, the fermentation must, prior to the commencement of

acetous fermentation, be stopped. The treatment in case of both sweet and dry cider is identical, except that in case of the latter the expressed juice is not filtered, and the application of the process is commenced after the vinous fermentation is begun, as aforesaid. In case of the latter application of the invention the use of the saccharometer is indispensable.

Claims.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The fumigation of vessels, to contain saccharine fluids, with the combined vapor of brimstone, kino, and benzoin, in the manner and for the uses and purposes substantially as herein shown and described.

2. The process for treating sweet cider, as set forth and described.

3. The process for treating "dry" cider, as set forth and described.

4. The fumigator, Fig. 2, as herein described.

5. The composition pastil, as herein described.

In testimony that I claim the foregoing improvement in treatment of saccharine fluids as above described I have hereunto set my hand and seal this 18th day of May, 1871.

GEO. L. RUNDLE. [L. S.]

Witnesses:

A. C. DWIGHT,
W. L. DWIGHT.