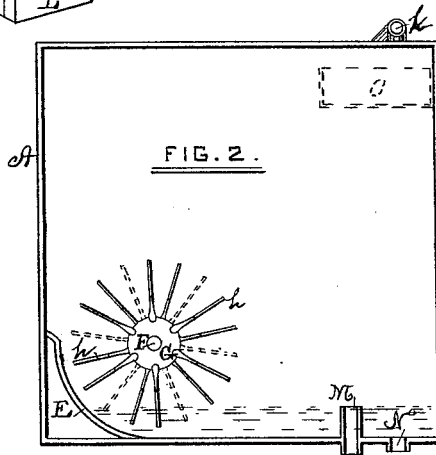
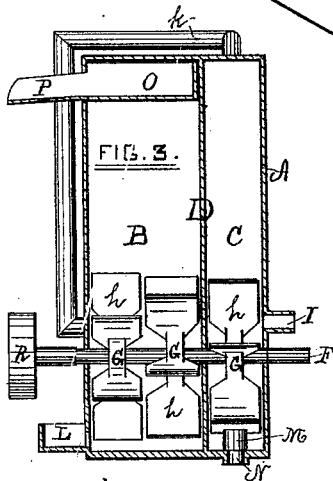
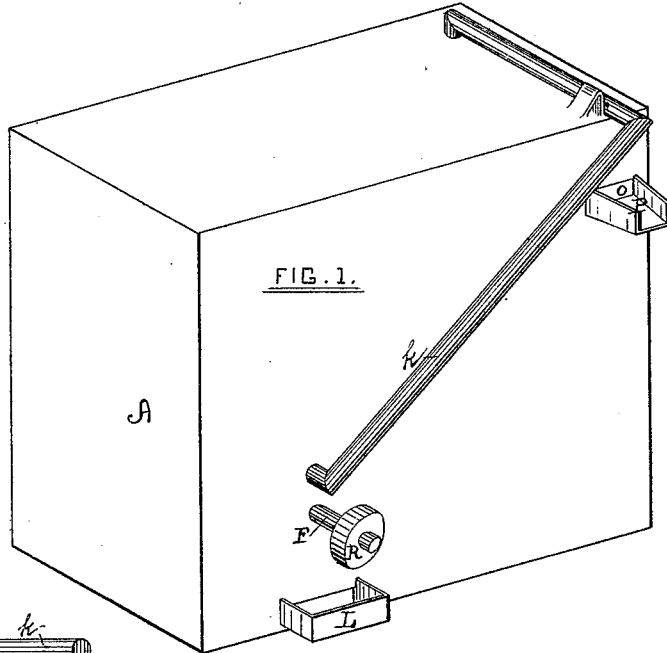


J. MILLER.
APPARATUS FOR BLEACHING AND ELEVATING CANE-JUICE

No 195,522.

Patented Sept. 25, 1877.



WITNESSES.

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JAMES MILLER, OF BAYOU DES ALLEMAND, LOUISIANA.

IMPROVEMENT IN APPARATUS FOR BLEACHING AND ELEVATING CANE-JUICE.

Specification forming part of Letters Patent No. **195,522**, dated September 25, 1877; application filed April 30, 1877.

To all whom it may concern:

Be it known that I, JAMES MILLER, a resident of Bayou Des Allemand, parish of St. Charles, and State of Louisiana, have invented a certain new and useful Improvement in Defecating and Elevating Apparatus; and I do hereby declare the following to be a full, clear, and correct description of the same, reference being had to the annexed drawings, making a part of this specification.

This invention relates to an improved means for purifying sulphur-fumes and for bleaching and elevating cane-juice, &c.

Its nature will be readily understood by referring to the accompanying drawings, whereon—

Figure 1 represents a perspective view of my improved apparatus. Fig. 2 is a vertical longitudinal section, and Fig. 3 a vertical cross-section, thereof.

A is a rectangular box, the interior of which is divided into two compartments, B C, by a vertical longitudinal partition, D. The interior of the lower end of this box is furnished with a curved plate, E, in which is operated, on a shaft, F, a series of wheels, G, which are provided with paddle-blades *h*. These wheels are secured to the shaft F, so that the paddles of one may be a little in advance of the other, which arrangement enables the machine to be started with ease and run with great velocity, even should the box become overcharged.

The water and juice are elevated and thrown forward in their respective compartments in a kind of mist, the water in this way purifying the fumes, which are introduced into the compartments C through a pipe, I. The fumes as purified pass up through a pipe, K, in the top of this compartment, and are thereby conveyed to a point near the level of the shaft, where they are introduced into the compartment B, to act on the juice while in a state of mist, and thus thoroughly bleach the same.

As the fumes by this process of purification are relieved of all, or very nearly all, their acid,

the quantity of lime as heretofore used is greatly reduced, consequently leaving but little coloring matter in the juice, and thereby enabling the operator to produce a bright and dry crystal sugar and a clear golden-hued molasses.

L is a trough, which is provided with a side opening, through which the juice enters the compartment B, and in which it should be retained at a depth of not over three inches, as too great a depth will cause the paddles to throw off the juice in too heavy a body. M is a pipe through which water is introduced into the compartment B, and N a pipe through which it is withdrawn from the same. The height of water in this compartment should be about three inches, and it should be constantly renewed, in order to carry off the acid as fast as it is separated or extracted from the fumes.

The height of the curved plate E is made to suit the height and distance to which the juice is to be thrown. At the top of the chamber is fitted a shelf, O, with outward-projecting trough P for catching the juice and discharging it outside of the box.

To the outward-projecting end of the shaft F is fitted a pulley, R, to which the power is applied for operating the wheels heretofore mentioned.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The box A, divided into compartments B C, curved plate E, shaft F, wheels G G, provided with paddle-blades *h h*, arranged as described, shelf O, troughs L P, pipes I M N, and connecting-pipe K, arranged as described, the whole constructed and operating substantially as set forth.

In testimony whereof I have hereunto set my hand.

JAMES MILLER.

In presence of—

HENRY PERRY,
J. C. HUBBELL.