U. NAQUIN & T. MORILLION.

APPARATUS FOR TREATING CANE JUICE WITH SULFUROUS ACID GAS.

No. 66,377. Patented July 2, 1867.

FIG. I.

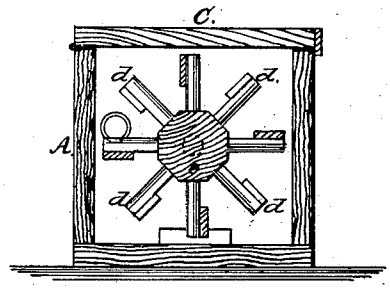
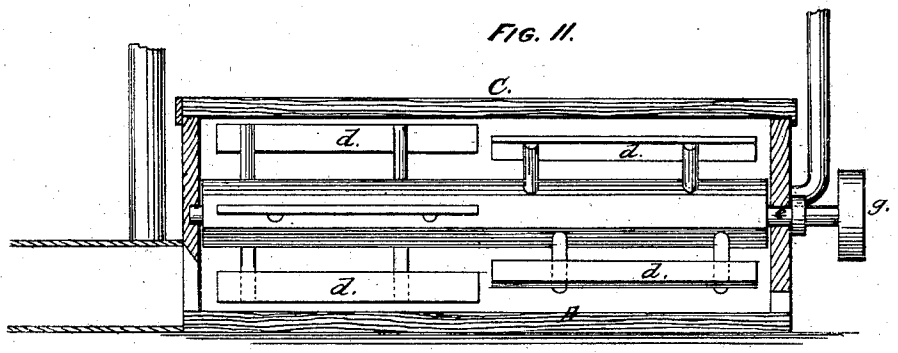


FIG. II.



WITNESSES:

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THEODULE MORILLON AND URSIN NAQUIN, OF LA FOURCHE PARISH, LOUISIANA.

Letters Patent No. 66,377, *dated July* 2, 1867.

IMPROVED APPARATUS FOR TREATING CANE JUICE WITH SULPHUROUS ACID GAS.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that we, URSIN NAQUIN and THEODULE MORILLON, in the parish of La Fourche, and State of Louisiana, have invented new and useful improvements in the Manufacture of Sugar; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a cross-section of the apparatus employed for saturating cane juice with sulphurous acid.

Figure 2 is a longitudinal section of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to new and useful improvements in the manufacture of sugar, and consists in a new mode of saturating cane juice, and bleaching it with sulphurous acid for the purpose of making white, bright sugar.

For this purpose we employ a simple apparatus, which we have found convenient and efficient, and the description of which will illustrate fully the method and principle of operation of our improved process of applying sulphurous acid for the saturation and bleaching of cane juice. But the mechanical arrangements for conducting the operation are capable of various modifications, and our invention is not limited or confined to any particular form and plan of construction of the apparatus employed. In illustration merely of our invention, therefore, we refer to the drawings of the apparatus we employ in our improved process of bleaching cane juice, in which—

A represents a rectangular box, made of any suitable wood, of from fifteen to twenty inches square and ten or fifteen feet long, or of any required dimensions and length adapted to the premises and capacity of the cane-mill, and leading therefrom to the cane-juice boxes or vat in the sugar-house. The box A is made air-tight, to prevent the escape of the sulphurous gas which is introduced, and is provided with a movable cover, C. At one end of the box A is introduced a trough or pipe, shown in red, for carrying the cane juice direct from the cane-mill into the box, and at the opposite end of the box A is a similar pipe or trough, also shown in red lines, for carrying away the cane juice after it has been saturated with sulphurous acid from the box into the vat or boxes in the sugar-house, where it is boiled and evaporated to make sugar in the usual way. In the end of the box A in which the induction pipe is introduced is also inserted another pipe, which leads from a furnace where crude sulphur is burned and vaporized for conveying the sulphurous gas thus produced into the box A, where the gas is thoroughly commingled with the cane juice in the box by mechanical agitation and mixing therewith until the juice is saturated with sulphurous acid. And provision is made for the escape of any excess of sulphurous gas by a flue or chimney, indicated in red, outside of the box and leading from the trough that conveys the cane juice from the box to the sugar-house. The mechanical agitation and admixture of the sulphurous gas with the cane juice are effected by means of stirrers or paddles *d d* attached to a horizontal shaft, *e*, rotated by a band on the pulley *g* connected with the cane-mill, or by any other convenient mechanical arrangement for accomplishing this object. By these simple and economical mechanical contrivances for introducing sulphurous gas into actual and intimate contact with the cane juice, perfect saturation thereof with the sulphurous acid is effected, so that it is effectually bleached, and will by subsequent treatment in the sugar-house produce a white and bright crystalline sugar.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

A tight wooden box, provided with pipes of induction and eduction for cane juice, and also with a pipe for introducing sulphurous gas therein, to saturate the juice with sulphurous acid by mechanical agitation thereof, substantially as and for the purpose herein described.

The above specification of our invention signed by us this first day of February, 1867.

THEODULE MORILLON,
URSIN NAQUIN.

Witnesses:

J. F. RIVIERE,
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