A. MACKEY.

CENTRIFUGAL MACHINE FOR DRAINING SUGAR.

No. 65,923. Patented June 18, 1867.

Fig. 1.

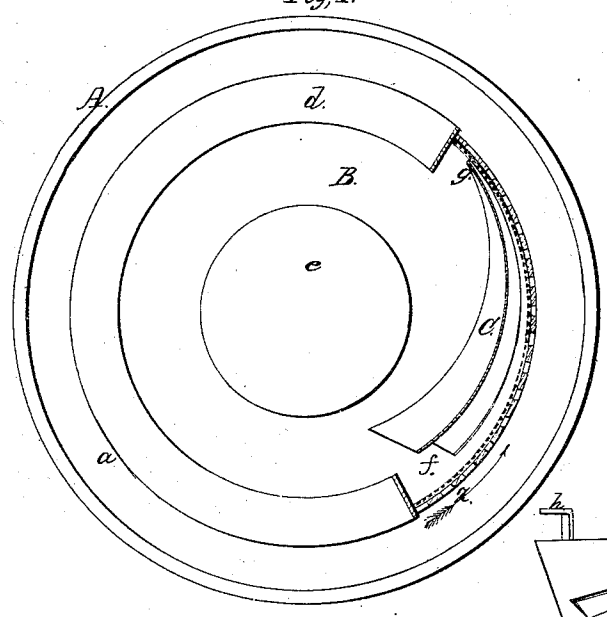


Fig. 3.

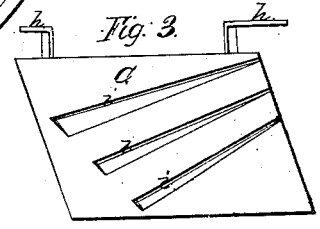
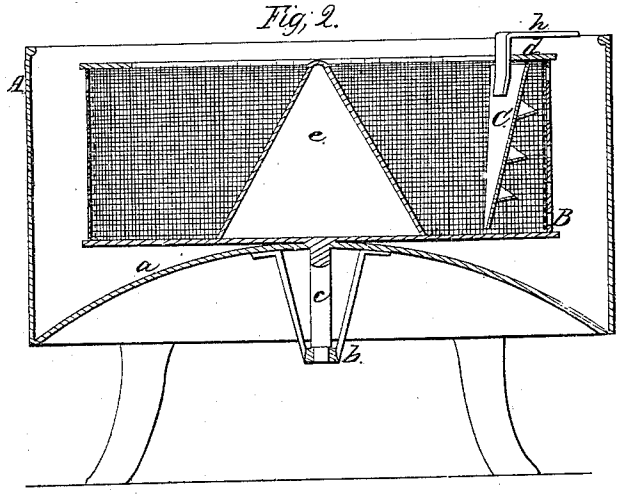


Fig. 2.



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ALEXANDER MACKEY, OF NEW YORK, N. Y.

Letters Patent No. 65,923, *dated June* 18, 1867.

IMPROVEMENT IN CENTRIFUGAL MACHINES FOR DRAINING SUGAR.

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, ALEXANDER MACKEY, of the city, county, and State of New York, have invented a certain new and useful Improvement on Centrifugal Sugar Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents a plan of a centrifugal sugar machine, with a portion of it broken away to better illustrate my improvement applied thereto.

Figure 2, a vertical section thereof, taken as denoted by the line *x x* in fig. 1; and

Figure 3, a back view of the distributor forming my improvement detached.

Like letters indicate like parts throughout the several figures.

My improvement relates to centrifugal sugar machines generally, whether the same be used for the purpose of refining and drying sugar after it has been boiled and granulated, or for purifying it in its raw state by washing, in either of which cases it is important that the sugar be well distributed and kept up to the periphery of the revolving cylinder of the machine, in order that the benefit derivable from centrifugal action may be more fully or fairly obtained. More particularly is this distribution necessary on feeding or depositing the sugar in the machine, to prevent it settling, and insure its speedy projection against the periphery of said cylinder, which, by its centrifugal action, will afterwards keep it up thereto. To effect such distribution is the object of my invention, which consists in arranging immediately in front of the feed, within the revolving cylinder of the machine, and adjacent to its periphery, a distributor of peculiar construction, between which and the cylinder the sugar is passed outwards to the periphery of the latter, and is lifted or prevented from settling till such time as the centrifugal action takes effect.

For the information of others whom it may concern, I proceed to describe my invention with reference to the accompanying drawing, in which A is the cylindrical case of the machine, made of any suitable material, and the bottom, *a*, of which may be of hemispherical configuration, and be provided with a hanger, *b*, to carry the vertical shaft *c* of the revolving cylinder B. This cylinder B is or may be of the ordinary construction, that is, its sides formed of a perforated metal backing to a lining of wire cloth, and said cylinder further provided with an internally overhanging upper flange, *d*, and central cone, *e*. The requisite rapid rotary motion in direction of the arrow *z* is communicated to the cylinder B in any suitable way, and it may rest centrally underneath upon the top of the hemispherical bottom *a* of the case, the depressed surface of which serves to receive the liquid ejected by the cylinder B into the annular space lying between said cylinder and case. Within the cylinder B, and arranged near the one side of it, for the depth of the cylinder or thereabouts, and for the most part under cover of the flange *d*, is a stationary distributor, C. This distributor is immediately in front of the space over the cylinder into which the sugar is fed, and consists of a plate that may be of curvilinear form in direction of its length, and which is set shelving or inclining inwardly in a downward direction for the greater portion of its length, preferably inclining most at its edge nearest the feed, and gradually diminishing in inclination towards the edge furthest therefrom, and is likewise set eccentrically in relation to the cylinder, so as to present a wide mouth, *f*, and narrower discharge opening, *g*, and so that at its foot nearest the feed it approximates the base of the cone *e*, but gradually increases in distance therefrom towards its discharge edge. Said distributor is held to the case A by straps *h*, or in any other suitable way prevented from moving with the cylinder B, and in addition to the construction already described for or of it, the back of the distributor is provided with any number of elevating strips or flanges, *i*, arranged one above the other and set spirally, inclining upwards from the feed towards the discharge also, each of said flanges preferably being longer than the next below it.

In the operation of the machine, the sugar as it is fed into the cylinder B, immediately in rear of the distributor C, is hurled or worked by the cylinder through or behind the former, the shelving and eccentric construction of which, including its flanges *i*, will tend to keep the sugar forced outwards towards the periphery of the cylinder, and to lift it or prevent its settling, acting also as a continuous distributor to the incoming sugar, which, by the time it is discharged from behind the distributor, will have acquired sufficient centrifugal force to keep it up to the inside of the cylinder's periphery, when the centrifugal action of the cylinder will

retain it there, and in conjunction with the agitation kept up by the distributor, serve to act upon the sugar in a most effective manner, not only in the process of purifying the sugar by washing it in its raw state within the cylinder, but also in the ordinary process of refining and draining it after it has been boiled and granulated. Instead of the stationary distributor C inclining inwardly in a downward direction for the greater portion of its length, commencing with the feed end, it may incline outwardly in an upward direction, so as to have its feed opening more contracted at the base than the top, in which case the flanges *i* may be dispensed with, and the sugar be fed behind the distributor C, at its top near the feed end, by pipe, or said distributor may be otherwise constructed to guide and lift or keep up the sugar against the inner periphery of the revolving cylinder during the early portion of its deposit therein, as specified.

What I claim herein as new and useful, and desire to secure by Letters Patent, is—

1. The combination, with the centrifugal cylinder, of a stationary distributor arranged within the cylinder on one side of it, adjacent to the feed, and operating substantially as specified.

2. The stationary distributor C, constructed essentially as shown and described, in combination with the centrifugal cylinder B, and arranged in relation thereto as herein set forth.

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Witnesses:

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