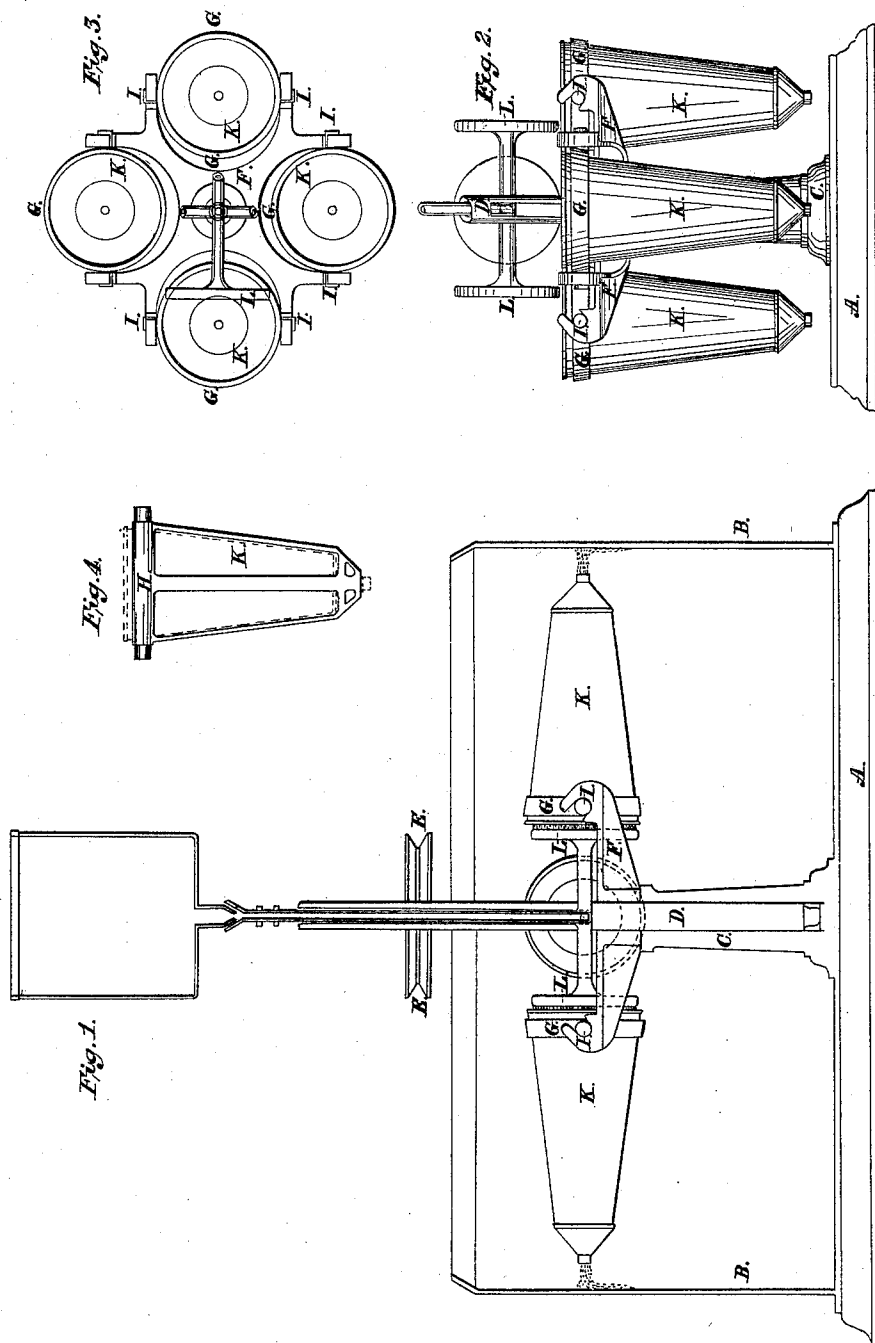


D. KING.
CENTRIFUGAL SUGAR DRAINER.

No. 8,545.

Patented Nov. 25, 1851.



UNITED STATES PATENT OFFICE.

DANIEL KING, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN CENTRIFUGAL SUGAR-DRAINERS.

Specification forming part of Letters Patent No. 8,545, dated November 25, 1851.

To all whom it may concern:

Be it known that I, DANIEL KING, of Brooklyn, county of Kings, and State of New York, have invented a new and useful machine for extracting aqueous or liquid matter from crystallized and other substances (more particularly sugar) by centrifugal force generated by the action of machinery; and I hereby declare that the following is a full, clear, and exact description of the machine and operation of the same, reference being had to drawings making a part of this specification, in which—

Figure 1 is a representation of the machine in motion, and Fig. 2 the machine at rest, and Fig. 3 is a plan of the machine, and the same letters in these drawings indicate the same parts.

This machine consists of a base, A, round which is a curb, B, to receive the liquid thrown out by machine, and in the center is a pedestal or step-column, C, on which rests the main shaft of machine D, which receives its motion from the band-pulley E, which may be placed on any part of shaft to suit the communication of power. On this shaft is keyed the suspending rotating plate F. This plate is so constructed as to contain the hinged hoops G or the cage H, Fig. 4, that oscillate on the hinges at I. Into these hoops are placed the sugar-molds K, as at present in ordinary use in sugar-establishments. Thus it will be seen that the mold with perfect ease can be taken out and put into the machine with great facility compared with the usual method of cleansing by centrifugal force. These molds being put into the machine are in the position as shown in Fig. 2, or at rest, and immediately power is applied to make the spindle rotate. The molds fly out and maintain the position as represented in Fig. 1, in which position the machine operates, and the liquid will be ejected in the same manner as the ordinary way of dripping, only with vastly increased saving of time and expense. The upper part of main shaft or spindle D is hollow, and a cistern containing the cleansing-sirup supplies a constant quantity of liquor to supply the machine when required. This leads into the four perforated

rose-heads L, through which the liquor for washing is distributed over surface of mold; and thus by the centrifugal action percolates through the sugar until it reaches the farther end of mold, and is then ejected; also, this machine may be used as a filtering-machine, the sirup being allowed to pass through the rose-heads, percolating through charcoal.

It will be observed from drawings that the rose-heads are withdrawn from face of movable receiver before the machine is stopped, to allow the vessel to assume its position of rest without injuring the distributing-pipes.

In using this machine with moderate velocity the usual sugar-mold may be placed in a hinged hoop, as represented in drawings; but in high velocities a suspending-cage will be necessary, as represented in Fig. 4, which, while it contains the mold, retains it more securely, and the mold will be more easily removed, owing to the impossibility of the mold jamming in the cage by reason of the centrifugal force.

Having thus described my machine and its manner of working; I would remark that the advantages of this machine over those at present in use are its entire adaptation to the present arrangement of a sugar-house, particularly refining-establishments for loaf-sugar, the use of the machine requiring no radical change in sugar-establishments; that the sugar as soon as it is put into the mold, being fairly granulated, is immediately put into machine and operated on, and can easily be removed without the labor and trouble of digging out the sugar as done heretofore.

I would now state that what I claim, and desire to secure by Letters Patent, is—

Centrifugal machines for separating fluid from other matter, constructed and operating as herein set forth, with detachable vessels containing the substance to be operated upon, irrespective of the exact mode of attachment, the number of vessels, or their form.

DANIEL KING.

Witnesses:

WILLIAM ARTHUR,
W. C. HERBERT.