

(No Model.)

J. T. DORÉ.
REVOLVING BUCKET STRAINER.

No. 421,253.

Patented Feb. 11, 1890.

Fig. 1.

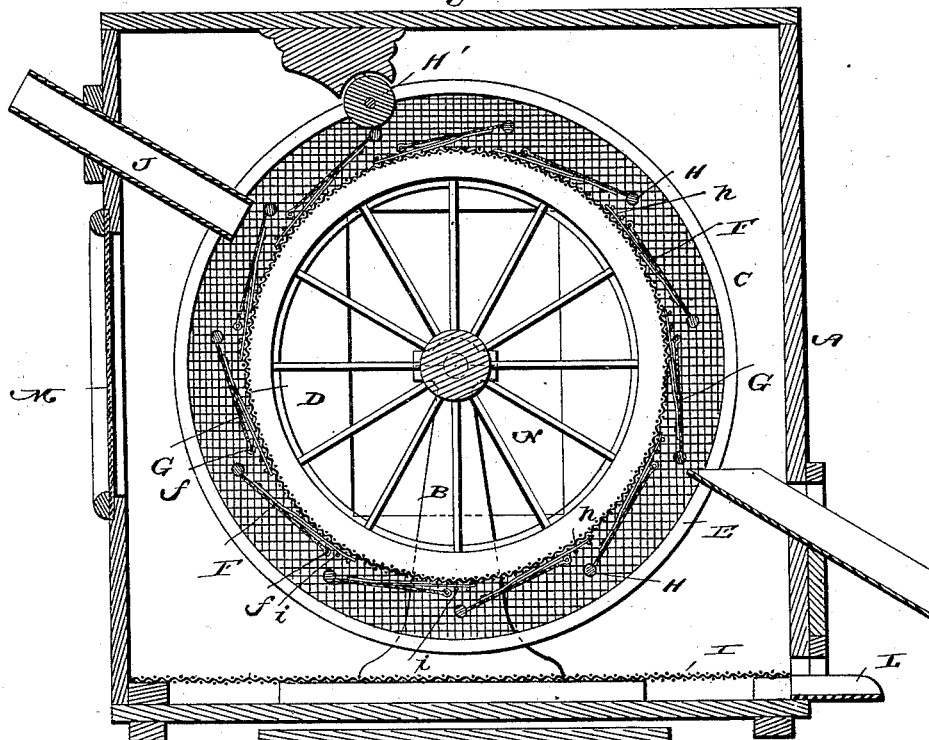


Fig. 2.

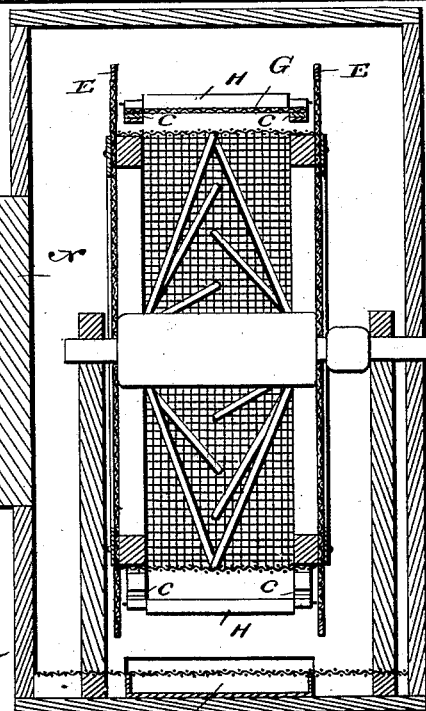


Fig. 3.

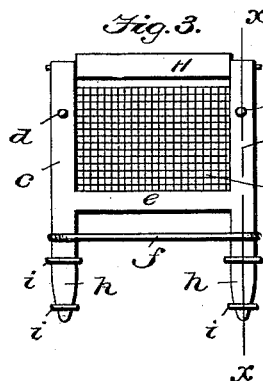


Fig. 4.

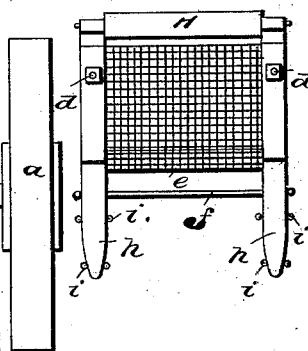
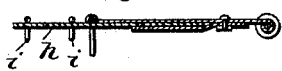


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN TILDEN DORÉ, OF BAYOU SARA, LOUISIANA.

REVOLVING BUCKET-STRAINER.

SPECIFICATION forming part of Letters Patent No. 421,253, dated February 11, 1890.

Application filed July 8, 1889. Serial No. 316,796. (No model.)

To all whom it may concern:

Be it known that I, JOHN TILDEN DORÉ, a citizen of the United States, residing at Bayou Sara, in the parish of West Feliciana and State of Louisiana, have invented certain new and useful Improvements in a Revolving Bucket-Strainer; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to improvements in that class of devices known as "cane-juice strainers."

It has for its object to provide an apparatus whereby the cane-juice and particles of bagasse received from a crushing-mill are separated and discharged through their respective channels; and the improvements consist in the construction, novel combination, and adaptation of parts, hereinafter described and claimed.

In the drawings, Figure 1 is a vertical sectional view of my improved straining and separating machine in an operative position. Fig. 2 is a vertical transverse sectional view of the same. Fig. 3 is a detail face view of one of the buckets, showing the devices for securing the same to the periphery of the revolving wheel. Fig. 4 is a detail back view of the same, and Fig. 5 is a longitudinal sectional view taken on the line *xx* of Fig. 3.

Referring to said drawings by letter, A indicates the frame or casing of the machine, which may be of any approved construction having the ordinary base-supporting timbers.

B indicates upright standards, arranged within the casing to afford a bearing for the shaft of the perforated straining-wheel, presently to be described.

C indicates the improved revolving straining-wheel. This wheel C, which may be braced by spokes or other suitable means, is keyed on a shaft journaled in the bearings in the standards B, before described, and it derives its motion from a hand-wheel *a*, also keyed on said shaft outside the casing. This straining-wheel C also has a gauze or perforated periphery D, and is provided with radial flanges E at each side of the said periphery

D. These flanges E are also perforated, and they serve to prevent the bagasse within the buckets from escaping from the sides thereof while being pressed, and at the same time allow the extracted juice to pass through the perforations down upon and through the bottom strainer, hereinafter described.

F indicates my improved yielding straining-buckets, of which there may be any suitable number, according to the diameter of the straining-wheel employed. These buckets, which are of a width slightly less than that of the straining-wheel, to allow a passage for the juice thereon, are secured equidistant upon the periphery of the straining-wheel, their lower horizontal edge being attached thereto in a manner presently to be described, so as to normally keep the buckets in an angular extended position with respect to the periphery of said wheel.

The buckets are provided with a gauze straining-face portion G, through which the juice escapes when the bucket has been depressed. The side edges of the gauze strip G are secured, respectively, in parallel strips *c*, each of which is bent longitudinally upon itself to form a seat or sheath for the edges thereof, which are secured therein by the bolts *d*. The base edge of the gauze is protected by a transverse strip *e*, formed integral with and connecting the parallel strips *c*, before described. The upper edge of the said strip adjacent to the friction-roller is preferably left unprotected. The outer side of each of the transversely-bent strips *c* is longer than its fellow and extends longitudinally above and below the same, the upper extensions being turned to form bearings for the shaft of the friction-roller and the lower ones to form bearings for a securing device, presently to be described.

H indicates a friction-roller provided at the top of the bucket. This roller H, the shaft of which is journaled in the upper bearings of the strips *c*, serves to engage the periphery of the pressing-wheel, hereinafter described, and guide the bucket under and pass the same.

f indicates a transverse rod journaled in the lower-turned bearings of the extended portion of the strips *c*. This rod *f* is provided

at its ends with angular inwardly-directed sharpened portions adapted to enter the periphery of the straining-wheel C and secure the lower end of the bucket thereto.

5 *h* indicates rearwardly-extended spring-arms, which serve to keep the bucket in a normally-extended position. These spring-arms *h* are sheathed in the bent portions of the strips *c* and are secured therein by the
10 bolts *d*, before described. The rearwardly-extended portions of the springs are secured to the periphery of the straining-wheels by the staples *i*, shown in position thereon.

H' indicates the pressing-roller for extracting the juice from the bagasse within the buckets. This roller *H'*, which is journaled in a suitable bracket depending from the top of the casing, is so arranged with respect to the straining-wheel that it will engage the
20 face of the passing buckets and depress the same, thus forcing the extracted juice through the gauze periphery of the wheel and the flanges thereof down upon a horizontal bottom strainer, while the pressed bagasse is carried by the buckets to a point above the bagasse discharge-trough, which is discharged
25 upon said trough and carried off.

I indicates a horizontal gauze strainer, which extends across the entire surface of
30 the casing and catches and strains all juice falling from the straining-wheel.

J indicates a pipe or trough, through which the juice and bagasse particles are conveyed from the crushing-mill to the strainer. This
35 pipe *J* extends within the case to a point within the flanges *E*, so as to readily discharge the juice and bagasse particles into the extended buckets *D*.

L indicates a spout or pipe, by which the strained juice is drawn from the bottom of
40 the casing.

M indicates an inspection-glass in one end of the casing, and *N* a door or man-hole in the side thereof to allow access to the interior apparatus.
45

I do not wish to be understood as confining myself to the exact construction of straining-wheel and buckets described, as it is obvious that the same may be materially altered without departing from the spirit of my invention.
50

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

55 1. In a cane-juice strainer, the combination, with the straining-wheel suitably jour-

naled in a frame or casing and having a perforated periphery and radial flanges at the sides of said periphery, of the normally-extended buckets secured at their lower ends to
60 said periphery and adapted to give when pressed and return to their normal position when pressure has been removed, as and for the purpose specified.

2. In a cane-juice strainer, the combination, with the main frame or casing, of the straining-wheel suitably journaled therein having the perforated periphery and radial flanges at the sides thereof, the normally-extended perforated buckets secured at their
70 lower ends to said periphery and adapted to give when pressed and return to their normal position when pressure has been removed, and the horizontal bottom strainer arranged in the casing at a point between the base
75 thereof and the bottom of the straining-wheel, all adapted to operate substantially as specified.

3. In a cane-juice strainer, the combination, with the main frame or casing having
80 feed and discharge channels suitably arranged therein, of the revolving straining-wheel journaled therein having the perforated periphery, and the normally-extended buckets secured at their base to said periphery and
85 adapted to give when pressed and return to their normal position when pressure has been removed, the pressure-roller journaled in bearings depending from the top of the casing in a suitable position to engage the friction-roller and face of the extended buckets,
90 substantially as specified.

4. The improved buckets described having the perforated face portion, the longitudinally-bent strips adapted to form a seat for the
95 edges thereof one side of each of said strips being extended longitudinally at the top and bottom thereof, to form bearings for the friction-roller and the transverse securing-rod, respectively, and the rearwardly-extended
100 spring-arms, also secured in the longitudinally-bent strips, all adapted to be attached to and operate in conjunction with a perforated revolving straining-wheel and pressure-roller, substantially as specified.
105

In testimony whereof I affix my signature in presence of two witnesses.

JOHN TILDEN DORÉ.

Witnesses:

JNO. H. ADAMS,
PERCY D. PARKS.