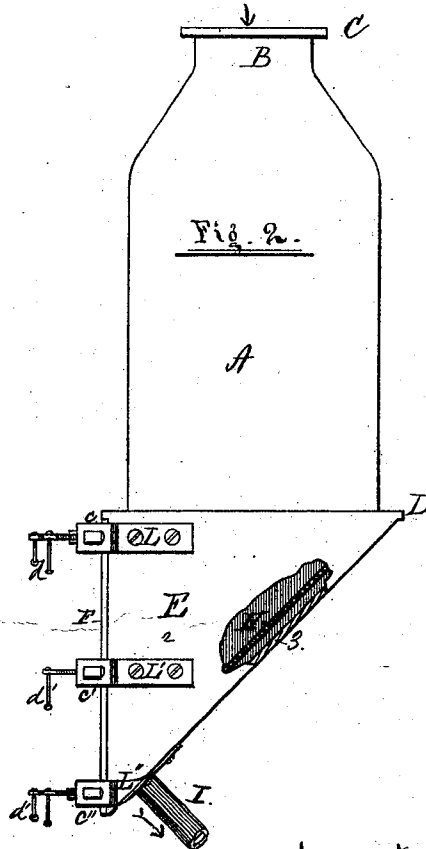
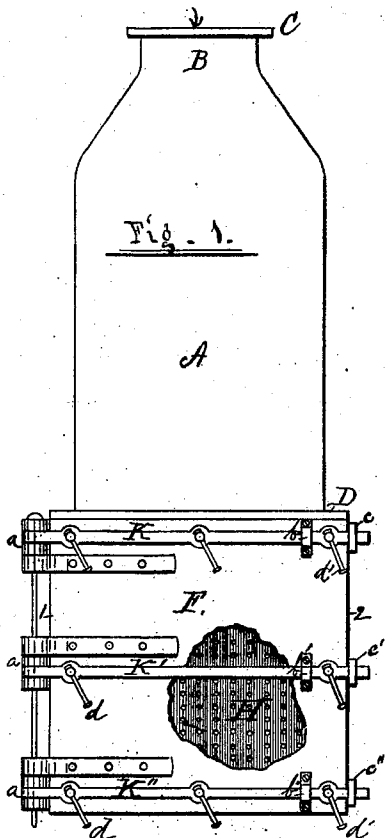


A. MITCHELL.

DIFFUSION VESSELS FOR EXTRACTING CANE-JUICE.

No. 173,039.

Patented Feb. 1, 1876.



Witnesses.

J. C. Hubbell
T. J. Roach.

Inventor.

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UNITED STATES PATENT OFFICE.

ARCHIBALD MITCHELL, OF NEW ORLEANS, LOUISIANA, ASSIGNOR TO LEEDS & CO., OF SAME PLACE.

IMPROVEMENT IN DIFFUSION-VESSELS FOR EXTRACTING CANE-JUICE.

Specification forming part of Letters Patent No. **173,039**, dated February 1, 1876; application filed August 20, 1875.

To all whom it may concern:

Be it known that I, ARCHIBALD MITCHELL, a resident of the city of New Orleans and State of Louisiana, have invented a certain new and useful Improvement in Diffusion-Vessels; and I do hereby declare the following to be a full, clear, and correct description of the same, reference being had to the annexed drawing, making a part of this specification.

My invention relates to an improvement in diffusion-vessels for extracting saccharine matter from sugar-cane and other substances. It consists, mainly, in the peculiar construction of the lower section of the vessel, the bottom of which declines at an angle of about forty-five degrees from the rear of a square flange that is cast or secured to the lower edge of a vertical cylindrical vessel, to or near to the lowest point of the opposite side, which is furnished with an opening extending from the lowest point of the bottom upward over a part or all of the side, which opening is closed by any suitable door.

My invention, its construction and operation, will now be more clearly understood by reference to the drawing, whereon—

Figure 1 represents a front elevation, and Fig. 2 a side elevation of the same, a portion of the lower section being broken away in each view in order the better to exhibit the interior of the same.

A represents the upper or cylindrical portion of my improved diffusion-vessel, which is provided at its top with a contracted open throat, B, and flange C. To the lower edge of the cylindrical portion A is cast or secured a square flange, D, which forms the top of the lower section E, provided with perpendicular sides 1 2, sloping bottom 3, and open front, the latter having a hinged door, *f*, which, when closed, is, in a manner hereinafter specified, made to hermetically seal the same. Within the lower section E, and supported a few inches above and on the same inclination with the bottom thereof, is a perforated false bottom or strainer, H, from beneath which the clear juice is drawn off through a pipe, I, at such times as may be deemed necessary. K

K' K'' are braces, the inner ends of which are supported in the butts *a*, to which the door is hung. These braces are held in a horizontal position upon the outside of the door by means of the staples *b b' b''*, secured to the said door near its outer edge, as shown in the drawing. To the opposite side of the lower section E from that upon which the door is hung, and on a line with the braces K thereof, is secured a set of hinged hasps, L L' L'', the free ends *c c' c''* of which are made, when the door is closed, to swing over the projecting ends of the braces K K' K'', so as to secure the door in the said position.

The braces K are provided with screws, as shown at *d d'*, &c., for the purpose of pressing the door more closely to its seat, thereby hermetically sealing the opening, and thus preventing any escape of juice from within the vessel.

The chips or slices of cane are delivered by a carrier, or by any other suitable means, through an opening in the top of the upper section A of my diffusion-vessel, in which they are retained until entirely freed from all saccharine matter. The liquor is then withdrawn through the pipe I, and the bagasse falling to the bottom of the vessel is, by the peculiar shape of the same, banked against the door F, the opening of which discharges the bagasse, which may be conveyed away upon a carrier, to be afterward used as fuel or for any other desirable purpose.

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

In combination with a diffusion-vessel, the chamber E, provided with a door, F, at the bottom of, or constituting one side thereof, a strainer, H, extending diagonally from the opposite side to the door, and parallel thereto, and having an outlet, I, as and for the purpose described.

ARCHIBALD MITCHELL.

Witnesses:

H. N. JENKINS,
T. J. ROACH.