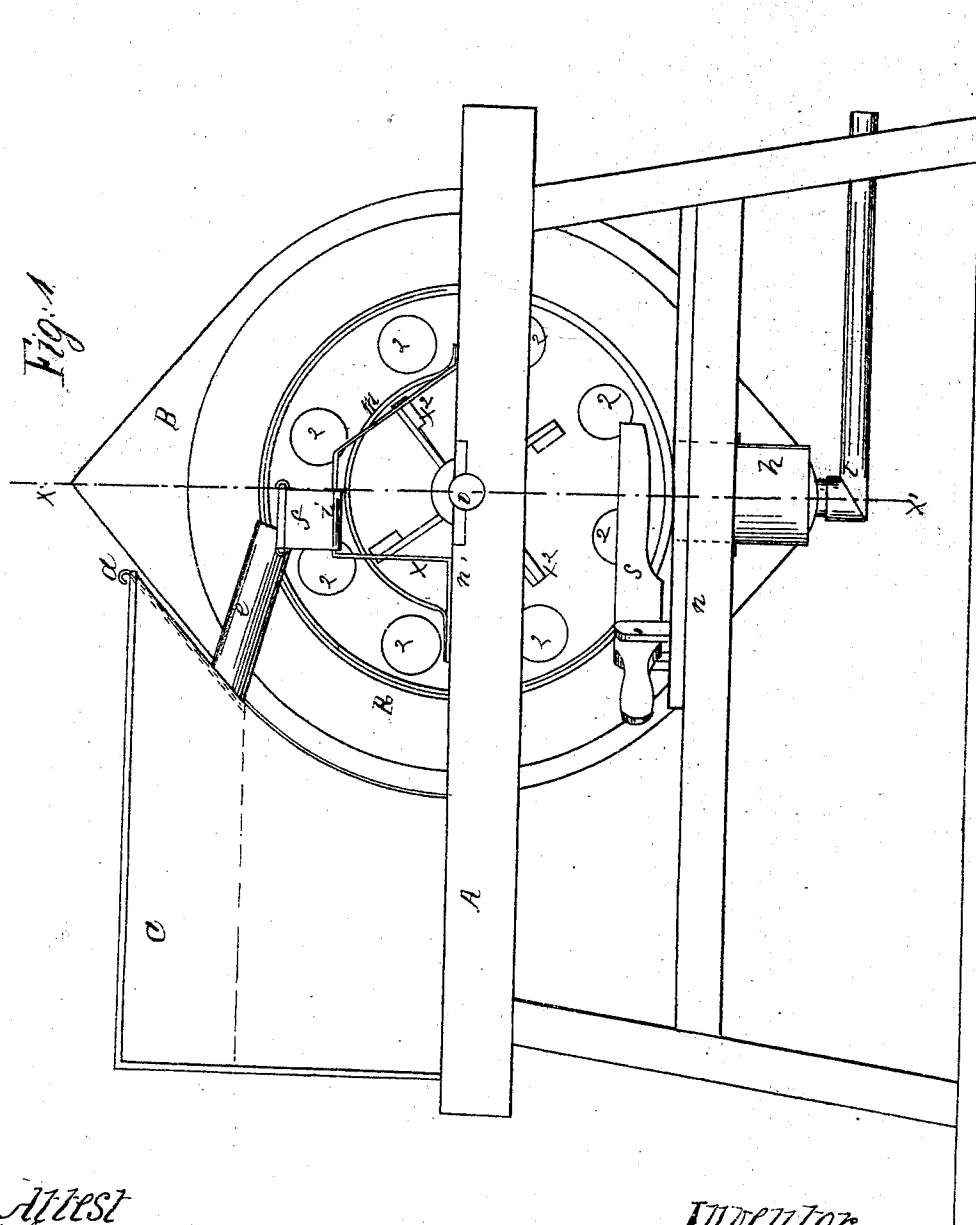


J. B. Hill.
Sugar-Mill.

2 SHEETS
SHEET. 1.

N^o 71877

Patented Dec. 10, 1867.



Attest
John Johnston
Geo. C. Markham

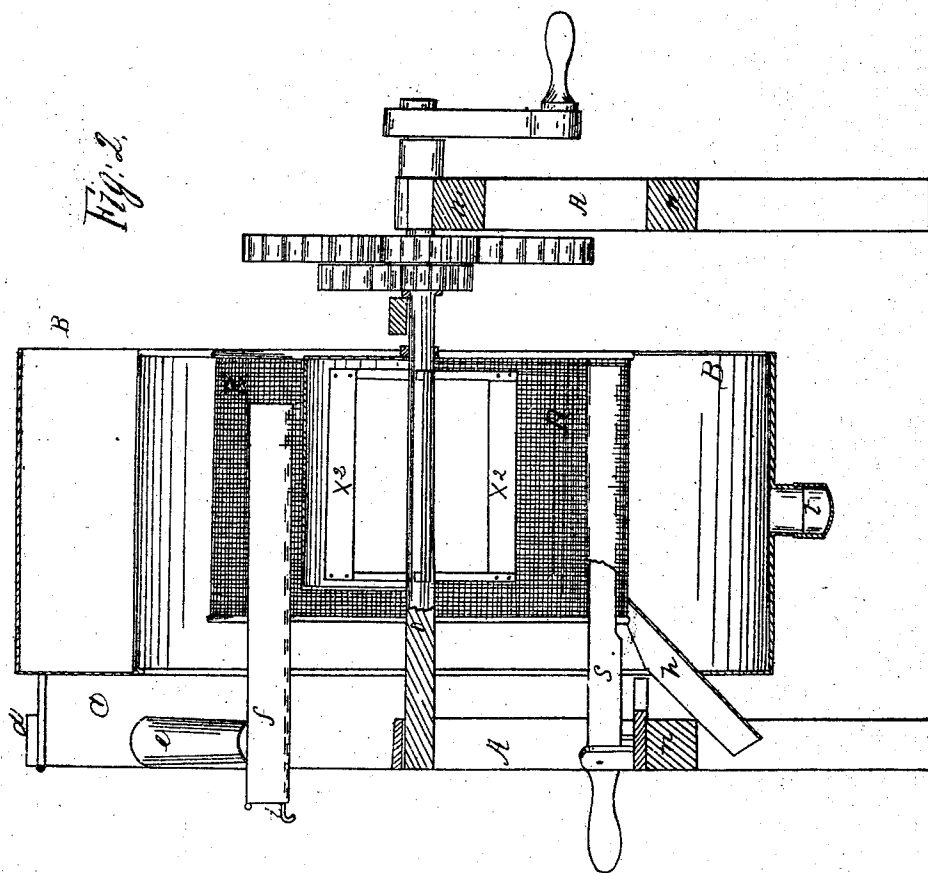
Inventor:
James B. Hill
By his Attorney
John Johnston

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Attest
John Johnston
Esq. Notary Public

Inventor
J. B. Hill
By his Attorney
J. Johnston

United States Patent Office.

JAMES B. HILL, OF ALLEGHENY CITY, PENNSYLVANIA.

Letters Patent No. 71,877, dated December 10, 1867.

IMPROVED CENTRIFUGAL MACHINE 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, JAMES B. HILL, of the city and county of Allegheny, in the State of Pennsylvania, have invented a new and useful Improvement in Sugar-Mills; and I hereby declare the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the combination and arrangement of a hopper, conductors, valves, scraper, revolving screen, shield, and a fan, surrounded with a case, the whole being constructed, arranged, combined and operating in the manner hereinafter described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation. In the accompanying drawings, which form part of my specification—

Figure 1 represents a side elevation of my improved sugar-mill.

Figure 2 represents a transverse section of the same, cut through at line x' .

In the drawings, A represents the frame of the mill. B represents a case, which surrounds the screen R, which resembles a section of a drum. The side of this screen is made of fine open work, and is secured on the shaft O. In the end of the screen is a number of openings, marked Q, which are used for admitting air into the interior of the screen. On the shaft O, and inside of the screen R, is placed a fan, x^2 , above which is placed a shield, m , and a conductor, f , provided with a valve or gauge, i . The conductor f is supported on a pedestal, z , and the shield is secured to the bar n' of the frame A. The hopper marked C is provided with a conducting-pipe, e , and a regulating-valve or gauge, d . To the lower part of the case B is attached a pipe, t , which is used for conducting off the molasses. On the bar n , off the frame A, is pivoted a scraper, S, which extends into the interior of the screen, and set obliquely to the plane of the screen, so that it will, when held down on the screen, cause the sugar to run into the chute h , and from it into a suitable collecting-vessel.

As the construction and arrangement of the several parts of my improved mill will readily be understood by the skillful mechanic, I will therefore, without further description of its construction, proceed to describe its operation.

Having all things constructed, arranged, combined as hereinbefore described, I put granulated molasses in the hopper C, and then by means of suitable driving-gear impart a rapid motion to the shaft O, which will impart motion to the fan x^2 and the screen R. I then open the valve or gauge d , which will allow the molasses to flow through pipe or conductor e into the conductor f . I then draw out the valve i , so as to allow the desired quantity of molasses to drop on the shield m , and as it drops off the shield, the fan will blow it against the screen R, which will separate and drain the molasses from the sugar, the sugar being collected on the inside of the screen, and the molasses dropping down in case B, passes out through pipe f into a suitable vessel provided for its reception. When any quantity of sugar is collected on the inside of the screen, I bring the scrapers S down, which will cause the sugar to pass off through chute h into a suitable vessel provided for its reception. In distributing the molasses on the shield m , the valve i should be moved in and out, so as to distribute the molasses along the shield m , which will cause an even distribution of the molasses against the screen, and the sugar which is collected on the sides of the screen will be rapidly dried by the force of the wind caused by the action of the fan x^2 .

Having thus described the nature, construction, and operation of my improvement, what I claim as of my invention, is—

The use of a fan when used in combination with the shield m , distributor f , screen R, case B, hopper C, and scraper S, constructed, arranged, and operating substantially in the manner herein described, and for the purpose set forth.

JAMES B. HILL.

Witnesses:

A. C. JOHNSTON,

JAMES J. JOHNSTON.