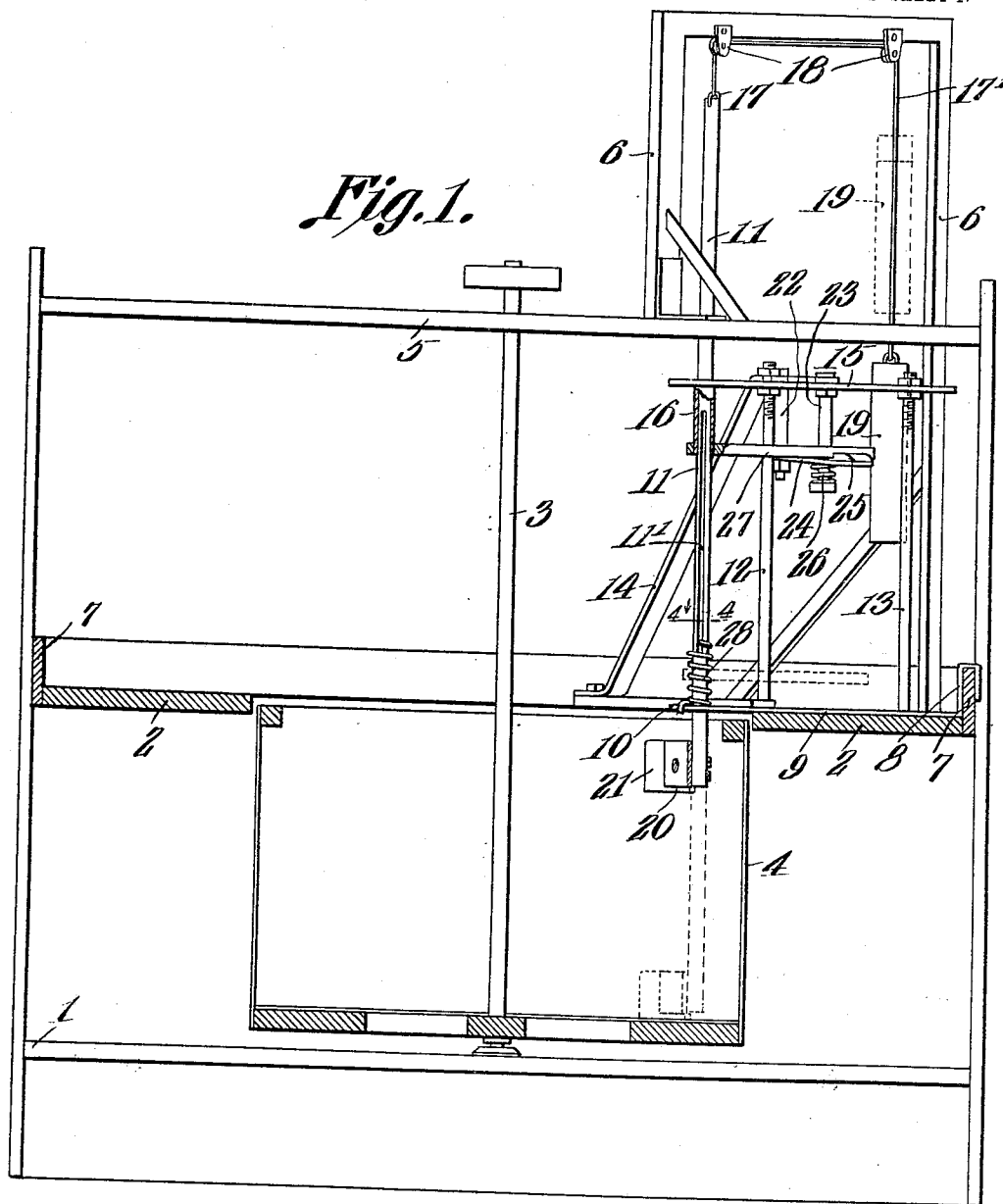


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SUGAR CUTTING ATTACHMENT FOR SUGAR CENTRIFUGALS.
APPLICATION FILED AUG. 12, 1911.

1,012,766.

Patented Dec. 26, 1911.

2 SHEETS—SHEET 1.



Witnesses

J. P. Thomas
L. H. Wilson

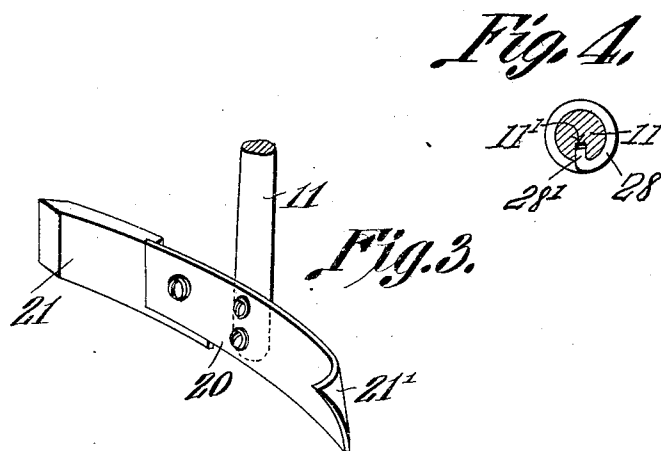
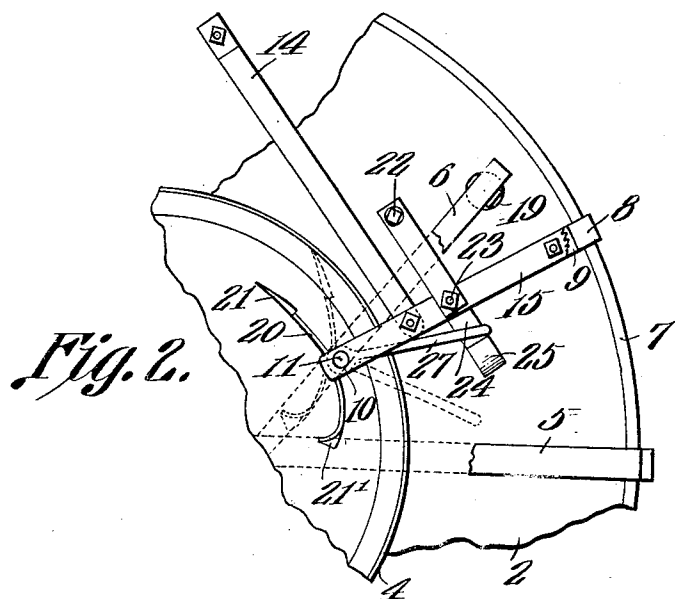
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UNITED STATES PATENT OFFICE.

GEORGE VIVES, OF THIBODAUX, LOUISIANA.

SUGAR-CUTTING ATTACHMENT FOR SUGAR-CENTRIFUGALS.

1,012,766

Specification of Letters Patent.

Patented Dec. 26, 1911.

Application filed August 12, 1911. Serial No. 643,735.

To all whom it may concern:

Be it known that I, GEORGE VIVES, a citizen of the United States, residing at Thibodaux, in the parish of Lafourche and State of Louisiana, have invented a new and useful Sugar-Cutting Attachment for Sugar-Centrifugals, of which the following is a specification.

The present invention relates to improvements in cutting attachments for sugar centrifugals, and the primary object of this invention is the provision of a device adapted to be normally held in the position to be moved vertically within and adjacent to the peripheral walls of a sugar centrifugal, and by means of a spring actuated rod to have a cutting tool disposed against the wall, to remove the crusted sugar therefrom during the rotation of the centrifugal receptacle.

A further object of this invention is the provision of a cutting device adapted to be attached to a centrifugal supporting frame and be moved vertically into and out of the centrifugal receptacle, the same being a shaft having mounted upon its lower end a cutting or scraping tool which normally exerts a tension to engage the inner peripheral wall of the receptacle in combination with a weight actuated means for moving said cutting or scraping tool or rod vertically up and down within the receptacle.

A still further object of the invention is the provision of means for locking the cutting or scraping device out of engagement with the wall of the centrifugal receptacle, and yet in such a position to be readily placed in operable relation thereto when desired.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings—Figure 1 is a vertical central sectional view through a centrifugal and frame, showing the scraping device in operable relation thereto, the same being shown in dotted lines when operating near the bottom or lower portion of the walls thereof. Fig. 2 is an enlarged detail top elevation of the cutting blade and operating

mechanism showing a portion of the receptacle and supporting platform. Fig. 3 is a detailed perspective view of the cutting and scraping blade with a portion of its carrying rod adjacent thereto. Fig. 4 is a cross section through the main shaft showing the mounting of the spring thereupon.

Referring to the drawings, the numeral 1 designates the main frame, carrying the platform 2 adjacent to the mouth of the centrifugal sugar receptacle 4, which is operably connected to the vertical shaft 3 in the usual manner, the upper end thereof being journaled in the transverse plate or beam 5, to which is connected the super-structure 6 of the present invention.

Connected to the rim 7 and also upon one side and the upper side of the platform 2 as clearly shown in Fig. 1 is a loop 8 and plate 9, whose outer end 10 is provided with a bearing and projects beyond the platform 2 and beyond the peripheral edge of and within the receptacle.

Mounted for vertical and oscillatory movement within the terminal 10 of the plate 9 is a shaft 11, which passes upwardly and through the beam 5 and within the super-structure 6, as clearly shown in Fig. 1, are the rods 12 and 13 and the plates and braces 14 and 15, constituting a frame for properly supporting the shaft 11 and its locking device as will presently appear. The shaft 11 passes through the outer end of the arm or plate 15, as clearly shown, and in order to limit the upward movement of said shaft is a sleeve 16 mounted below the plate 15. Connected to the upper end of the shaft 11 at 17 and passing through the pulley sheaves 18 and the super-structure 6, is a flexible cable 17', whose other end is connected with a cylindrical weight 19 disposed to travel as shown in full and dotted lines in Fig. 1, which weight is sufficiently heavy to normally retain the parts in the position as shown in full lines in Fig. 1.

Mounted upon the lower end of the shaft 11 and normally within the receptacle 4 is the cutting and scraping tool 20, which as clearly shown in detail in Fig. 3, is removably attached to the lower end of the shaft 11 and is provided with the removable cutting or scraping blade or point 21, the plate 20 being of a flexible metal so as to normally exert a spring tension upon the cutting point 21 when in engagement with the side of the receptacle 4 as shown in dotted

lines in Fig. 2. The plate 20 is provided with curved upper corner 21' so as to deflect the freed or cut sugar from the body of the scraper or cutter as the receptacle 4 is rotated during the scraping and cutting action.

Connected dependingly from the under side of the plate 15 are the two posts or pins 22 and 23, respectively, which provide a means for supporting the catch 24, so that its engaging end 25 will be normally in the path of the handle 27 connected to the shaft 11; when such handle is turned to inoperative position to cause the cutter or scraping blade to assume the position as shown in full lines in Fig. 2, the spring 26 mounted upon the lower end of the pin 23 and normally holding the free end of said shaft in upward and handle engaging position.

Mounted upon the shaft 11 above the terminal 10 of the plate 9 is a coiled spring 28, whose terminal 28' fits slidably within the longitudinal groove 11' of the shaft 11 while the other lower end thereof is connected rigidly to the terminal 10 of the plate 9, whereby the said spring normally exerts a tension upon the shaft 11, to hold the cutting point 21 in contact with the inner peripheral wall of the receptacle 4, the handle 27, when assuming the position as shown in full lines in Fig. 2, locking the said scraper in the position as shown in full lines so that it will not contact or engage the walls of the receptacle during the ordinary centrifugal action thereof. By this means the spring 28 remains at the same relative position while the movement of the shaft 11 will not change its position as the terminal 28' will slide within the groove 11' in the shaft 11 and therefore permit the vertical adjustment of said shaft, the spring at all times exerting the proper and desired tension. To assist the spring 28, which might not be sufficiently strong to hold the cutter in proper contact with the walls of the centrifugal, the operator may grasp the handle 27 and push or pull it to assist said spring and thus exert a greater pressure of the cutter upon the walls.

From the foregoing description taken in connection with the drawings, it is evident that when the device is not in use that it will assume the position as shown in Figs. 1 and 2 in full lines. To operate the device it is simply necessary to release the handle 27 from the catch 24 so that the spring 28 will oscillate the shaft 11 to bring the cutting point 21 into engagement with the inner wall of the receptacle 4, the parts being then in the position shown in dotted lines in Fig. 1. As the receptacle 4 is being rotated, and the point 21 is placed in engagement with the wall and held thereto by means of the spring 28, sufficient friction is exerted upon the cutting point 21 of the

cutting or scraping tool, to plow, scrape or cut the incrustated sugar from the wall of the receptacle, as the said receptacle is rotated in its usual manner. During this action the weight 19 is permitted to exert the proper movement upon the shaft 11, assisted manually when necessary by the operator, to raise the same and that by the time the scraper has moved from the dotted position as shown in Fig. 1 to that in full lines therein, the entire wall of the receptacle will have been scraped, the manual assistance given the rise of the scraper during its operation preventing any spiral cutting of the sugar from the centrifugal, thereby insuring the cleaning of the walls entirely of the incrustations.

It will be seen that by this construction that the wall of the centrifugal receptacle may be cleaned without the necessity of stopping the machine and scraping with knives as is the usual custom.

What is claimed is:

1. In a device for scraping the interior walls of a rotating circular receptacle, of a vertically slidable and oscillatory shaft, a scraper blade carried upon one end thereof within the receptacle, a spring for exerting a tension upon the shaft to hold the cutting blade in engagement with the receptacle, means for locking the shaft against the tension of the spring and to hold the blade out of engagement with the receptacle, and means for moving the shaft and blade vertically with relation to the wall of the receptacle.

2. In a device for scraping the walls of a sugar centrifugal, of a vertically movable and oscillatory shaft disposed for movement into and out of said receptacle, a scraper blade mounted upon the lower end thereof, a spring upon the shaft for normally holding the cutting end of the scraper blade toward the wall of the receptacle, means for locking the shaft and scraper blade out of engagement with the wall of the receptacle, and means for imparting a vertical movement to the shaft and scraper.

3. In a device for scraping the inner wall of a sugar centrifugal, a shaft capable of a vertical sliding movement and an oscillatory movement, a scraper blade mounted upon the lower end thereof, a spring for normally holding the scraper blade in engagement with the receptacle, a manually operated lever connected to the shaft, a catch for engaging said lever to hold the shaft and scraper blade from engagement with the receptacle, and means for imparting a vertical movement to the shaft and scraper.

4. In a device for scraping the wall of a sugar centrifugal, a vertically movable and oscillatory shaft disposed for movement into and out of said receptacle, a scraper blade

mounted upon the lower end thereof, a spring upon the shaft for normally holding the cutting end of the scraper blade toward the wall of the receptacle, means for locking the shaft and scraper blade out of engagement with the wall of the receptacle, and a weight actuated means connected to the upper end of said vertical shaft for imparting a vertical movement thereto.

5. In a device for scraping the inner wall of a sugar centrifugal, a shaft capable of a vertical sliding movement and an oscillatory movement, a scraper blade mounted upon the lower end thereof, a spring for normally holding the scraper blade in engagement with the receptacle, a manually operated lever connected to the shaft, a catch for engaging the lever to hold the shaft and scraper blade from engagement with the receptacle, and a weight actuated means connected to the upper end of said vertical shaft for imparting a vertical movement thereto.

6. In a device for scraping the inner walls of a sugar centrifugal receptacle, a shaft capable of a vertical sliding and an oscillatory movement disposed to be moved into and out of said receptacle, a flexible plate connected to the lower end of said shaft, a removable cutter or scraper blade carried by one end thereof, a spring mounted upon the shaft for normally exerting a tension thereon to hold the cutting blade in engagement with the wall of the receptacle, and means for normally holding the shaft and cutting or scraping blade in an upward position.

7. In a device for scraping the interior walls of a sugar centrifugal receptacle, a shaft capable of a vertical sliding and an oscillatory movement disposed to be moved into and out of said receptacle, a flexible plate connected to the lower end of said shaft, a removable cutter or scraper blade carried by one end thereof, a spring mounted upon the shaft for normally exerting a tension thereon to hold the cutting blade in engagement with the wall of the receptacle, and a weight actuated means for automatically moving the shaft and scraping blade upwardly during the rotation of the receptacle.

8. In a device for scraping the interior walls of a sugar centrifugal receptacle, a

shaft capable of a vertical sliding and an oscillatory movement disposed to be moved into and out of said receptacle, a flexible plate connected to the lower end of said shaft, a removable cutter or scraper blade carried by one end thereof, a spring mounted upon the shaft for normally exerting a tension thereon to hold the cutting blade in engagement with the wall of the receptacle, a flexible connection connected to the upper end of said shaft, and a weight connected to the other end of said flexible connection for raising the shaft and scraper.

9. In a scraping device for receptacles of a sugar centrifugal, a vertically slidable shaft disposed above the receptacle but within the peripheral walls thereof, the lower end of which projects within the receptacle, a scraping blade carried upon the lower end of said shaft within the receptacle, means for normally holding said blade out of engagement with the walls of the receptacle, another means for normally exerting a tension to hold the scraper into engagement with the walls of the receptacle, and weight actuated means operably connected to the shaft for imparting a vertical movement thereto during the rotation of the receptacle and the contact of the scraping device with the receptacle.

10. The combination with a sugar centrifugal and the receptacle thereof, a device for scraping the wall of said receptacle, comprising a frame, a shaft capable of a vertical and an oscillatory movement disposed in said frame and having its lower end projected into the receptacle, a scraper carried upon the lower end thereof, a spring upon the shaft normally exerting a tension to retain the scraper in engagement with the wall of the receptacle, a handle carried by the shaft, a catch for normally engaging the handle to lock the shaft against the tension of the spring, and a weight actuated means for imparting a vertical movement to the shaft during the rotation of the receptacle.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

GEORGE VIVES.

Witnesses:

OCTAVE E. TROSCLAIR,
JOS. BRAINARD.