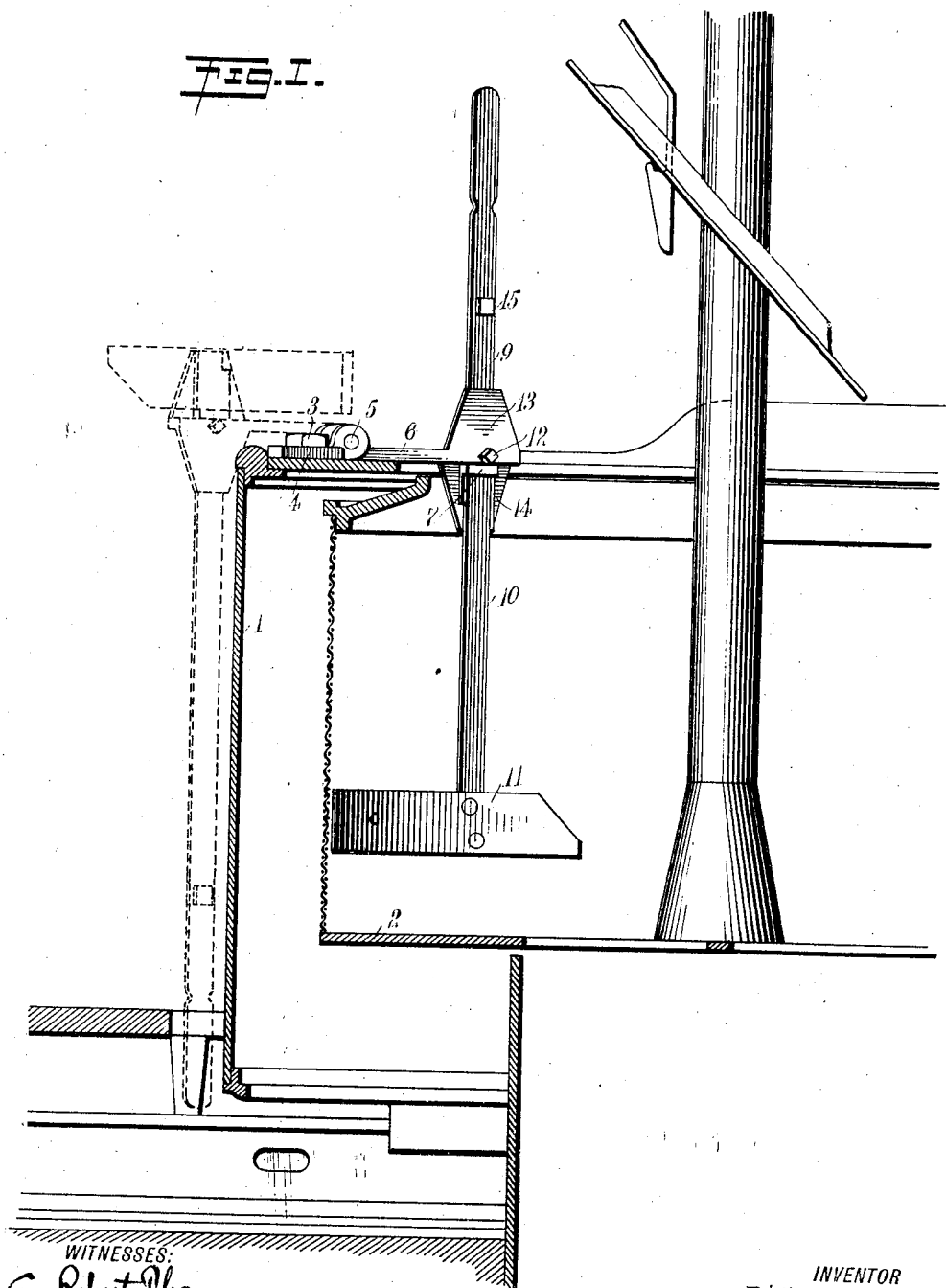


R. P. JOHNSON.
SUGAR REMOVER FOR CENTRIFUGAL MACHINES.
APPLICATION FILED AUG. 23, 1910.

985,679.

Patented Feb. 28, 1911.
2 SHEETS—SHEET 1.

FIG. I.



WITNESSES:
G. Robert Thomas
H. Whiting.

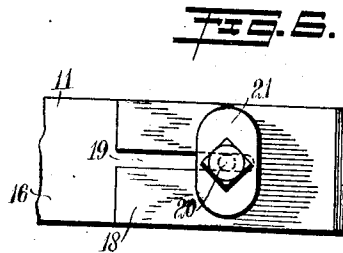
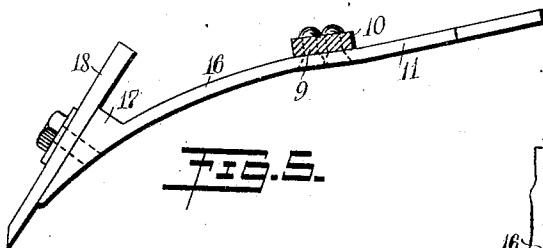
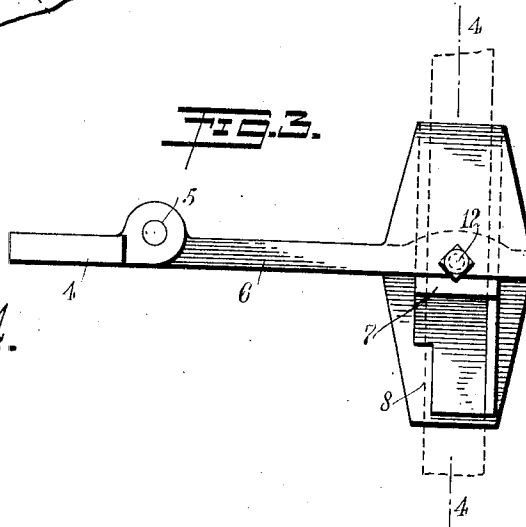
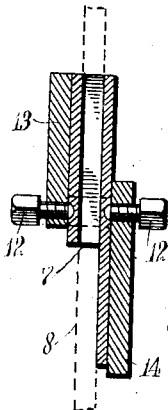
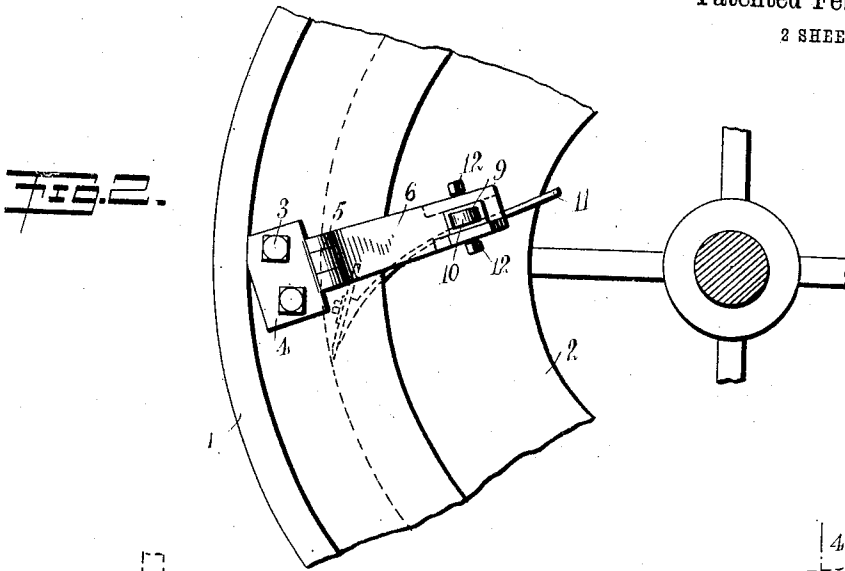
INVENTOR
Richard P. Johnson
BY *Mumford*
ATTORNEYS

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2 SHEETS—SHEET 2.



WITNESSES:
G. Robert Thomas
N. Whiting

INVENTOR
Richard P. Johnson
BY *Mumma*
ATTORNEYS

UNITED STATES PATENT OFFICE.

RICHARD P. JOHNSON, OF NEW YORK, N. Y.

SUGAR-REMOVER FOR CENTRIFUGAL MACHINES.

985,679.

Specification of Letters Patent.

Patented Feb. 28, 1911.

Application filed August 23, 1910. Serial No. 578,496.

To all whom it may concern:

Be it known that I, RICHARD P. JOHNSON, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Sugar-Remover for Centrifugal Machines, of which the following is a full, clear, and exact description.

This invention relates to a new and improved device for removing sugar deposited by centrifugal force on the walls of sugar separators.

It has been the practice in many sugar refineries to remove the sugar from the basket or bowl, either by having a permanently fixed paddle in the bowl which removes the sugar while the separating operation is going on, or by stopping the bowl after a certain period of operation, and removing the sugar by hand, with the aid of paddles. The former method is exceedingly dangerous, because of the high speed at which the separators run, and the second method is laborious and consumes considerable time.

An object, therefore, of this invention is to provide a device which can be used intermediate the separating operations, with a saving of at least twenty-five per cent. in labor and time, and with the least detriment to the separator itself.

A further object of this invention is to provide a sugar remover which can be adjusted from an inoperative position without the bowl to an operative position within the bowl, and which can be further adjusted vertically, so as to remove the sugar from all parts of the bowl.

These and further objects together with the construction and combination of parts, will be more fully described hereinafter and particularly set forth in the claims.

Reference may be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference denote corresponding parts in all the views, and in which—

Figure 1 is a fragmentary view in sectional elevation, of a centrifugal sugar separator, showing my device attached thereto, and showing in full and dotted lines its position within and without the separating basket; Fig. 2 is a fragmentary plan view; Fig. 3 is an enlarged detached view in elevation, of the bracket; Fig. 4 is a vertical

section on the line 4—4 of Fig. 3; Fig. 5 is a detached top plan view of the scraper; and Fig. 6 is a fragmentary side view in elevation, of the adjustable paddle of the sugar separator.

Referring more particularly to the separate parts, 1 indicates a framework, within which is rotatably mounted a separating bowl or basket 2, which may be of any suitable character, and which is adapted to receive the sugar separated by centrifugal force from the moisture, on its peripheral wall.

Secured to the frame 1 in any suitable manner, as by means of bolts 3, there is provided a supporting member 4, which has a hinge connection 5 with a bracket 6, so that the bracket 6 can be swung from the full line position illustrated in Fig. 1 to the dotted line position also illustrated in Fig. 1. The bracket 6 is adapted to project over the inner edge of the bowl or basket 2, and is provided at its projecting end with a vertically extending opening, in which is mounted a sleeve 7. This sleeve 7 is broken away at its lower end on two sides, as will be seen at the point marked 8.

Slidingly mounted in the sleeve 7 which is provided with a vertically extending opening, there is provided an implement 9, which consists of a bar 10, and a scraper 11. The bar 10 is slidingly mounted in the sleeve 7, so that the scraper can be adjusted to any position in the bowl. For the purpose of permitting the scraper 11 to be adjusted toward and from the surface of the bowl, the sleeve 7 is pivotally mounted in the bracket 6 by means of screw bolts 12, which pass through openings in the sides of the bracket, and engage openings in the sides of the sleeve. For the purpose of steadying the sleeve 7 and the rod 10 during the operation, the bracket is provided with extensions 13 and 14, which extend respectively up and down from the bracket 6 on opposite sides of the sleeve 7. In order to prevent the scraper 11 from coming in contact with the bottom, there is provided a limit stop 15, which is adapted to limit the downward motion of the bar 10.

It will be seen by referring to Figs. 5 and 6, that the scraper 11 consists of a body portion 16, curved so as to bring the front end thereof at an acute angle to the peripheral surface of the bowl or basket 2. The end of the body portion 16 which will be juxtaposed to the wall of the basket is provided

with an enlargement 17, to which is removably and adjustably secured a paddle or blade 18, which preferably is formed of wood, so as not to injure the screen of which the sides of most separator baskets are formed. In this case it will be seen that the blade or paddle 18 is provided with a slot 19, which is engaged by a bolt 20, passing therethrough, and being secured to the enlargement 17. A washer 21 may be interposed between the bolt and the blade, so as to make the locking engagement more positive. It will be seen that by this means the paddle or blade 18 can be adjusted on the body portion 16 to take up the wear incident to its use.

The operation of the device will be readily understood when taken in connection with the above description.

During the separating operation, the bowl 2 is rotated at a speed of about 800 revolutions per minute, which speed is sufficient to drain the liquid of the saccharine matter from the sugar by centrifugal force. During this operation, the remover is located in the position illustrated by dotted lines in Fig. 1. When a sufficient amount of sugar has been collected on the side of the bowl or basket, the power is shut off and the brake applied to the basket, so that the number of revolutions is reduced to about ten or twelve per minute. The remover is then swung from the dotted line position to the full line position, and the scraper is lowered by a laborer gradually, as the sugar is removed from top to bottom. After the paddle or blade 18 becomes slightly worn, the pivotal support of the sleeve 7 will permit the scraper to be adjusted closer to the basket to take up this wear. When this wear becomes excessive, the paddle or blade can be adjusted by loosening the bolt 20, and moving the paddle farther outward. This latter operation however, is rarely necessary, as the swinging movement of the implement 9 will allow for all ordinary wear. It will thus be seen that there is provided a device which will effect a great saving in time and labor in the removing of sugar from centrifugal separators.

While I have shown one embodiment of my invention, I do not wish to be limited to the specific details but desire to be protected in various changes, alterations and modifications which may come within the scope of the appended claims.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. The combination with a frame, of a basket rotatably mounted in juxtaposition to said frame, a bracket pivotally connected

to the frame so as to swing from a position projecting over said basket to a position away from said basket, a sleeve pivotally mounted in said bracket, and an implement slidingly mounted in said sleeve and adapted to remove material from said basket.

2. The combination with a frame, of a basket rotatably mounted in juxtaposition to said frame, a bracket pivotally connected to the frame so as to swing from a position projecting over said basket to a position away from said basket, a sleeve pivotally mounted in said bracket, an implement slidingly mounted in said sleeve and adapted to remove material from said basket, said implement comprising a vertically extending bar, a scraper connected with the said bar and a stop for limiting the vertical movement of said bar.

3. The combination with a frame, of a basket rotatably mounted in juxtaposition to said frame, a bracket pivotally connected to the frame so as to swing from a position projecting over said basket to a position away from said basket, a sleeve pivotally mounted in said bracket, an implement slidingly mounted in said sleeve and adapted to remove material from said basket, said implement comprising a vertically extending bar, a scraper connected with the said bar, a stop for limiting the vertical movement of said bar, said scraper comprising a body portion adapted to extend at an angle to the peripheral wall of said basket, and a blade adjustably mounted on said body portion.

4. The combination with a frame, of a basket pivotally mounted in juxtaposition to said frame, a bracket connected to said frame, a sleeve pivotally mounted on said bracket, and an implement adapted to remove material from said basket, slidingly mounted in said sleeve.

5. The combination with a frame, of a basket pivotally mounted in juxtaposition to said frame, a bracket connected to said frame, a sleeve pivotally mounted on said bracket, an implement to remove material from said basket, slidingly mounted in said sleeve, and extensions on said bracket, disposed on opposite sides of said sleeve, adapted to steady the movement of said implement, said extensions extending in opposite directions.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

RICHARD P. JOHNSON.

Witnesses:

F. W. HANAFORD,
JOHN P. DAVIS.