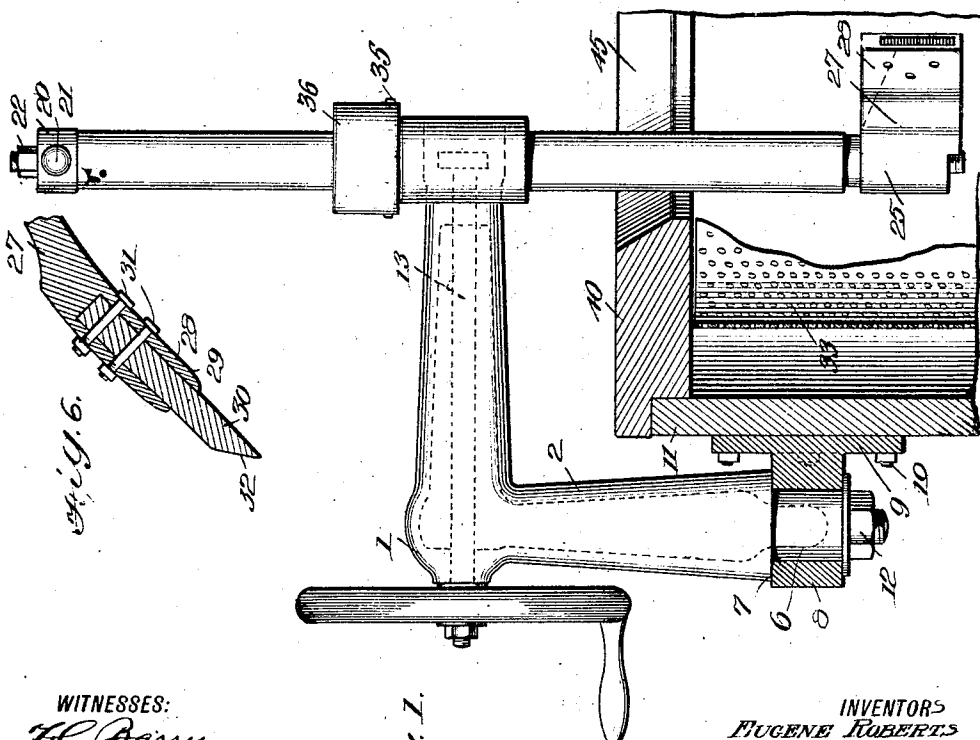
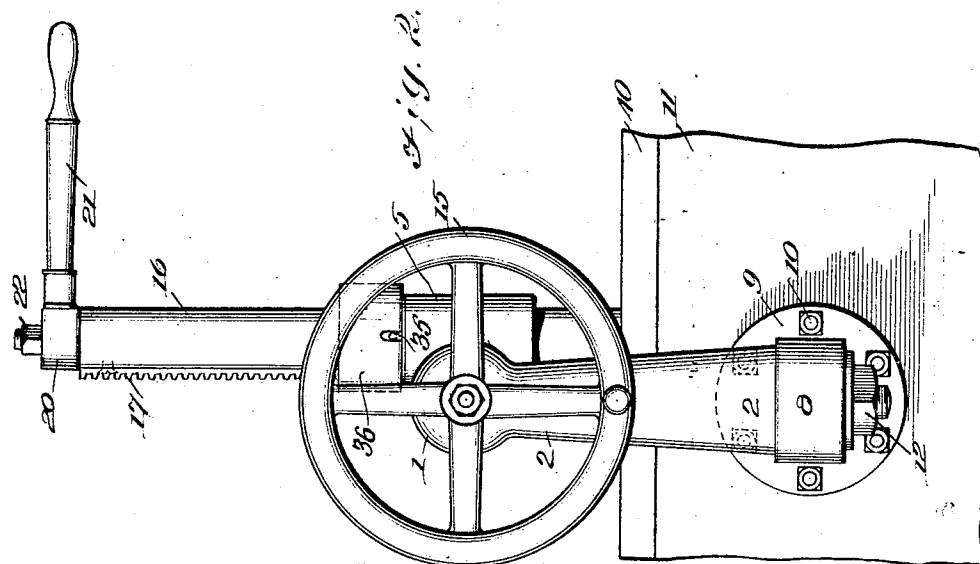


E. ROBERTS & A. H. GIBSON.
CENTRIFUGAL MACHINE.
APPLICATION FILED FEB. 19, 1910.

1,011,851.

Patented Dec. 12, 1911.

2 SHEETS—SHEET 1.



WITNESSES:
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2 SHEETS—SHEET 2.

Fig. 3.

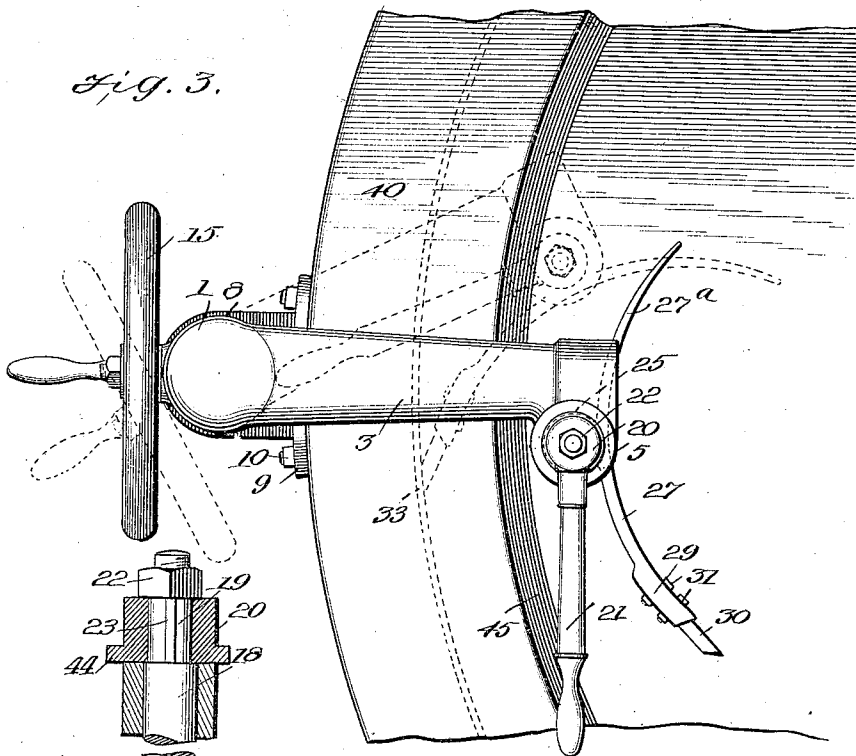
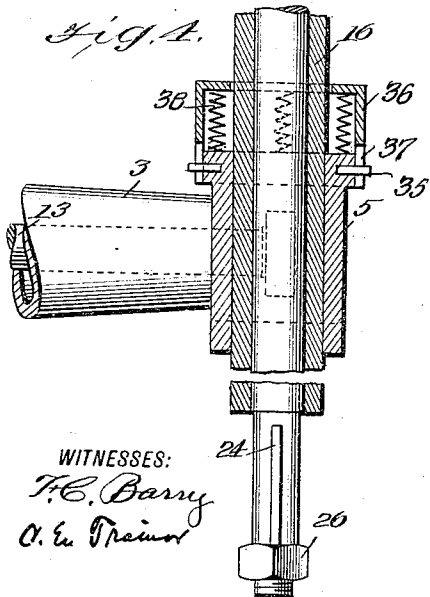
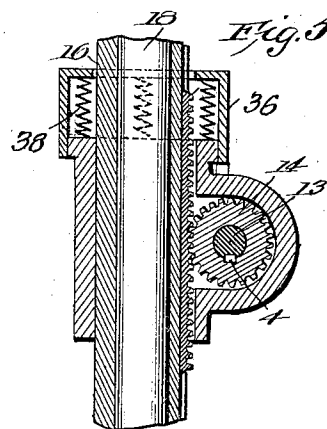


Fig. 4.



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Fig. 5.



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UNITED STATES PATENT OFFICE.

EUGENE ROBERTS AND ANGUS HENDERSON GIBSON, OF LEHI, UTAH.

CENTRIFUGAL MACHINE.

1,011,851.

Specification of Letters Patent.

Patented Dec. 12, 1911.

Application filed February 19, 1910. Serial No. 544,946.

To all whom it may concern:

Be it known that we, EUGENE ROBERTS and ANGUS H. GIBSON, citizens of the United States, and residents of Lehi, in the county of Utah and State of Utah, have made certain new and useful Improvements in Centrifugal Machines, of which the following is a specification.

Our invention is an improvement in centrifugal machines, and consists in certain novel constructions and combinations of parts hereinafter described and claimed.

The object of the invention is to provide a machine of the class specified, wherein means is provided for thoroughly cleaning the inner surface of the basket, and which may be swung over the basket, lowered thereinto, and withdrawn and swung away from over the basket after the basket is cleaned.

A further object is to so arrange the said cleaning means that the incrustated sugar or other material may be cut away gradually, and without injury to the basket or the cleaning means and without possibility of injury to the operator.

Referring to the drawings forming a part hereof—Figure 1 is a section through a portion of the casing of a centrifugal machine provided with our improvement; Fig. 2 is a view at right angles to Fig. 1; Fig. 3 is a plan view; Fig. 4 is a vertical section through the hollow shaft; Fig. 5 is a section at right angles to Fig. 4; and Fig. 6 is a sectional view of the paddle mounting.

The present embodiment of our invention is supported by a hollow bearing bracket 1, comprising a vertical portion 2, and a horizontal portion 3, having at the inner end thereof a vertical sleeve 5. The vertical portion of the bracket 2 has its lower end reduced as at 6, a shoulder 7 being arranged between the reduced portion and the main portion, and the reduced portion is received in a bearing 8, which is provided with a base 9 secured by bolts 10, to the side of the casing 11. A nut 12 is threaded on to the lower end of the reduced portion of the bracket, for securing the bracket in place.

A shaft 13 is journaled in the horizontal portion of the bearing, the end of the shaft adjacent to the sleeve 5 being provided with a pinion 14, keyed thereto by a key 4, and the other end with a hand wheel 15 for convenience in manipulating the shaft. A

hollow shaft 16 is slidable in the sleeve 5, and one side of the shaft is provided with rack teeth 17, with which the pinion 14 meshes.

A rod 18 is journaled in the hollow shaft, the upper end of the rod being reduced as at 19, and passing through an opening in a collar 20, which has projecting therefrom a lever 21. The lower side of the collar 20 rests on the top of the hollow shaft, and a nut 22 is threaded on to the upper end of the rod, to retain the collar in place. A key 23 is provided on the reduced portion of the rod, the said key engaging a keyway in the collar as shown in Fig. 4, to constrain the rod to move with the lever 21.

The lower end of the rod 18, is provided with a key 24, engaging a keyway in a bearing 25, and the bearing is secured in place on the rod by a nut 26. The bearing is provided with oppositely extending lateral arms 27, 27^a, the said arms forming a continuous arc as shown in Fig. 3. The arm 27 is enlarged at its end as shown at 28, and is provided with a socket 29, for receiving the end of a wooden paddle 30, which is secured in the socket by bolts 31. The outer end of the paddle is beveled as shown at 32 in Fig. 6, so that when the arm is swung into position with the end of the paddle against the inner wall of the basket or screen 33, the beveled end will fit the inner face of the said wall.

The upper end of the sleeve 5 is provided with an annular rib 34, having at opposite sides outwardly projecting pins 35. A cap 36 is mounted on the upper end of the bearing inclosing the rib, and the side walls of the cap are slotted as shown at 37 to receive the pins. The cap is also provided with a central opening through which passes the sleeve 16 and rod 18, and a plurality of coil springs 38, is arranged between the cap and the upper face of the rib. An arm 39 is secured to the top 40 of the casing, by bolts 41, and a roller 42 is journaled between the arms 43 of a fork on the end of the arm, and engages the sleeve 16 in its raising and lowering movement, to reduce the friction. The cap is engaged by a collar 44, on the sleeve 16, below the bearing 20, and prevents breakage or injury to the parts when the bearing is at its lowest point. The springs yield when the collar 44 engages the cap, permitting the cap to descend, and gradually checking the descent without jar.

Our invention is especially adapted for use in centrifugal machines used in sugar making, and the operation is as follows: When it is desired to empty the sugar, the centrifugal machine is slowed up somewhat, and the hollow shaft being elevated, the bracket is swung so that the horizontal portion thereof projects over the casing. The hand wheel is now turned to lower the hollow shaft through the opening 45 in the top of the casing, after which the lever 21 is turned to bring the paddle into the position shown in Fig. 3 in dotted lines. During the lowering of the paddle into the casing, the said paddle occupies the position shown in full lines in the said figure. When in the position shown in dotted lines, the beveled end of the paddle engages the incrustation of sugar or other material on the inner face of the wall of the screen, and strips off a portion thereof according to the width of the paddle. The hand wheel is turned slowly with the paddle in this position, gradually lowering the paddle and stripping the incrustation as it is lowered. Just before the paddle reaches the bottom of the screen the collar 44 engages the cap, and the movement is gradually checked. After the sugar is loosened, the lever is operated to swing the paddle into the position shown in Fig. 3, and the hand wheel is rotated to elevate the paddle from the casing, after which the bracket may be swung to the side of the casing entirely out of the way.

We claim:

1. The combination with the casing of the centrifugal machine, of a bearing secured thereto, a hollow bearing bracket comprising a vertical portion journaled in the bearing, and a horizontal portion and a vertical sleeve at the end of the horizontal portion, a shaft journaled in the bearing, a pinion on the shaft adjacent to the sleeve, a hand wheel on the other end of the shaft, a hollow shaft slidable in the sleeve and provided with rack teeth engaged by the pinion, a rod journaled in the hollow shaft, a lever on the upper end of the rod for manipulating the same, an arm on the lower end of the rod, a paddle secured to the arm, and yielding means for checking the downward movement of the hollow shaft near the end of its downward movement, said means comprising a cap on the sleeve for engagement by the lever and springs supporting the cap.

2. The combination with the casing of the centrifugal machine, of a bearing secured thereto, a hollow bearing bracket comprising a vertical portion journaled in the bearing, and a horizontal portion and a vertical sleeve at the end of the horizontal portion, a shaft journaled in the bearing, a pinion on the shaft adjacent to the sleeve, a hand wheel on the other end of the shaft, a hollow shaft slidable in the sleeve and provided with rack

teeth engaged by the pinion, a rod journaled in the hollow shaft, a lever on the upper end of the rod for manipulating the same, an arm on the lower end of the rod, a paddle secured to the arm, and yielding means for checking the downward movement of the hollow shaft near the end of its downward movement.

3. The combination with the casing of the centrifugal machine, of a bracket supported thereon, a hollow sleeve slidable in the bracket, means for raising and lowering the sleeve, a rod journaled in the sleeve, a lever connected with the upper end of the rod for manipulating the same, an arm connected with the lower end of the sleeve, a paddle secured to the arm, and yielding means for stopping the sleeve near the end of its downward movement.

4. The combination with the casing of the centrifugal machine, of a hollow sleeve, means for supporting the sleeve for swinging movement over and away from over the casing, means for moving the sleeve into and out of the casing, a rod journaled in the sleeve, a lever secured to the rod for oscillating the same, an arm secured to the lower end of the rod, a paddle in connection with the arm, and yielding means for stopping the sleeve near the end of its downward movement.

5. The combination with the centrifugal machine, of a rod mounted above the machine, means for swinging the said rod over and away from over the machine, means for raising and lowering the rod, yielding means for checking the rod near the end of its downward movement, a paddle on the rod, and means for oscillating the rod.

6. The combination with the centrifugal machine, of a rod mounted above the machine, means for swinging the said rod over and away from over the machine, means for raising and lowering the rod, yielding means for checking the rod near the end of its downward movement, a paddle on the rod, means for oscillating the rod, an arm journaled on the casing of the machine, and a roller journaled on the arm and engaging the rod.

7. In a centrifugal machine, a paddle, means connected with the machine for supporting the paddle and for swinging it over and away from over the machine, means for raising and lowering the paddle, and yielding means for checking the paddle near the end of its downward movement.

8. In a centrifugal machine, a bearing sleeve, means for supporting said sleeve for swinging movement over and away from over the machine, a rod movable through the sleeve, means for moving the rod, and a yielding cap on the sleeve for checking the downward movement of the rod.

9. In a centrifugal machine, a cleaning

paddle, means for supporting the paddle, means for lowering the paddle and support into and out of the basket of the machine, and means for swinging the support over and away from over the machine, and means for gradually checking the downward movement of the support.

10 A machine of the class specified, having means for cleaning the inner surface of the basket of a centrifugal machine, comprising means for swinging the cleaning means over the basket and for lowering it into and withdrawing it from the basket, and comprising a bracket supported outside of the basket and having an inwardly projecting arm and carrying means whereby it may be swung, and means for checking the descent of the cleaning means into the basket.

11. A machine of the class specified, having means for cleaning the inner surface of the basket of a centrifugal machine, and having also means for swinging the said cleaning means over the basket and for lowering it into and withdrawing it from the basket, and comprising a bracket supported for rotation outside of the basket, and slidably supporting the cleaning means, the said bracket carrying operating means whereby it may be oscillated, together with a cushion for yieldably checking the descent of the cleaning means into the basket.

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