(No Model.)

J. D. BELTON.

RICE HULLING MACHINE.

No. 376,626. Patented Jan. 17, 1888.

Fig. 1.

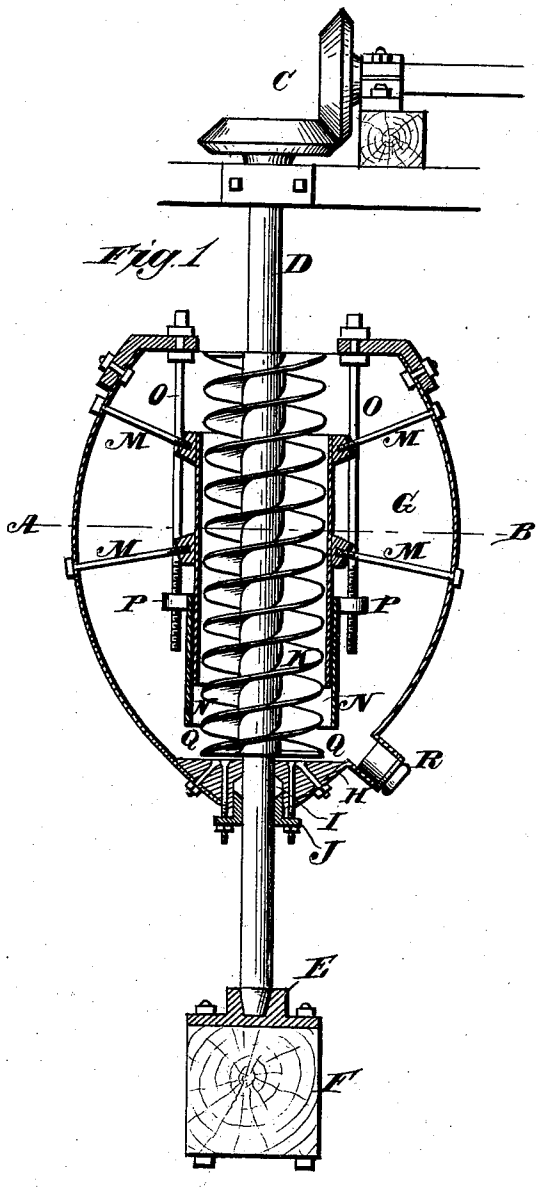


Fig. 2.

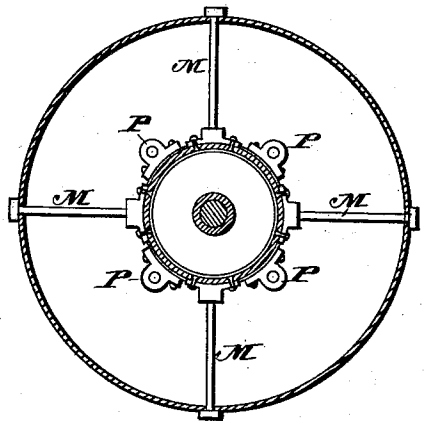
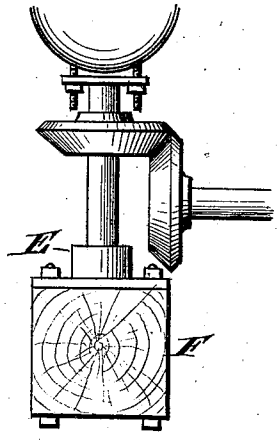


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN DIXON BELTON, OF NEW ORLEANS, LOUISIANA, ASSIGNOR OF ONE-HALF TO GEORGE ALFRED LANAUX, OF SAME PLACE.

RICE-HULLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 376,626, dated January 17, 1888.

Application filed April 23, 1887. Serial No. 235,929. (No model.)

To all whom it may concern:

Be it known that I, JOHN DIXON BELTON, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented new and useful Improvements in Rice-Hulling Machines, of which the following is a specification.

My invention relates to improvements in rice-huller machines, or, rather, in a machine to do the the same work as an ordinary rice-huller by means of the mechanism illustrated in the accompanying drawings, in which like letters refer to like parts.

Figure 1 is a vertical section. Fig. 2 is a cross-section through line A B of Fig. 1. Fig. 3 is a portion of outside view of lower end of the machine and showing how driven from below.

At Fig. 1 the machine is represented driven from above by friction (or toothed) wheels C. The vertical shaft D passes through the machine and sets in a step at E, secured to a timber, F.

G is the mortar or bowl.

H is a solid bottom bolted into the lower end of mortar G, and has in it a stuffing-box, I, with gland J, so that shaft D can be packed where it passes through. On shaft D is a fixed double or single threaded screw, K.

L is a cylinder open at both ends, in which the screw K revolves. The cylinder L is stationary and bolted to shell of mortar G by bolts M. At this lower end of cylinder L is a telescopic adjustable cylinder, N, that can be raised or lowered by bolts O, screwing through lugs P, which are riveted to the adjustable cylinder N. The object of this adjustable cylinder N is to increase or diminish the distance between its lower end and the bottom H, so that when the screw K revolves the rice may be subjected to a less or greater friction as it passes through the opening Q. At R is the opening for discharging the rice after the bran has been rubbed off.

When the machine is in operation and charged with rice, the screw K revolves so as to carry the rice upward contained in the cylinder L until the rice overflows at top of cylinder L into the space between cylinder L and shell of mortar G. The rice continually feeds the screw K at its lower end, passing through opening Q. The action is continuous, the rice constantly passing upward and downward until the bran is all removed, when the contents are let out through opening R and the machine is recharged. The continuous friction to which the rice is subjected, as described, loosens and finally removes the bran from the rice and effects the same purpose as the ordinary rice-hullers, but with less liability to crack the rice-grains, and produces more satisfactory results.

The central cylinder, L, may be made in one piece and be adjustable upward or downward to increase or diminish the space Q; or it may be fixed at a certain distance from the bottom H without being adjustable.

The screw K can be run in the reverse direction, so that the rice will descend the central cylinder and be forced out at lower end through the annular space Q, thus subjecting the rice to a greater friction than when the rice descends, as before described, and ascends the central cylinder, L. The screw K may be of any suitable shape to effect the purpose, but preferably slightly concaved on the under side of the blade.

This machine is not only applicable to the cleaning of rice, as described, but may also be used to polish coffee or other berries or grains.

What I claim, and desire to secure by Letters Patent, is—

1. The combination of the bowl G, a cylinder, L, secured vertically in said bowl and open at both ends, a rotating vertical screw, K, arranged vertically in said cylinder and extending therethrough, and means for rotating the screw, substantially as described.

2. The combination of the bowl G, a stationary cylinder therein, open at each end and terminating at a distance from the upper and lower ends of the bowl, the lateral bolts M, extending from the cylinder to the shell of the bowl, and a screw, K, arranged within the cylinder and extending beyond each end thereof, substantially as described.

3. The combination of the bowl G, a vertical cylinder, L, arranged therein, a cylinder, N, adjustable vertically at the lower end of the said vertical cylinder, and a rotating screw,

K, extending through both cylinders, substantially as described.

4. The combination of the bowl G, the vertical cylinder L therein, the lateral brace-bolts M for said cylinder, a vertically-adjustable cylinder, N, at the lower end of the said vertical cylinder, and having lateral lugs P, and screws O, engaging the lugs for adjusting the lower cylinder, substantially as described.

5. The combination, in a rice-huller, of a bowl, G, having a bottom outlet, R, a central stationary cylinder, L, arranged vertically in said bowl and having a telescopic end, N, above the bottom outlet, and a rotating screw extending vertically through the vertical stationary cylinder and through its telescopic end, substantially as described.

JOHN DIXON BELTON.

Witnesses:
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