

(No Model.)

G. W. H. SAFELY.

BRAN REMOVER.

No. 384,719.

Patented June 19, 1888.

Fig. 1.

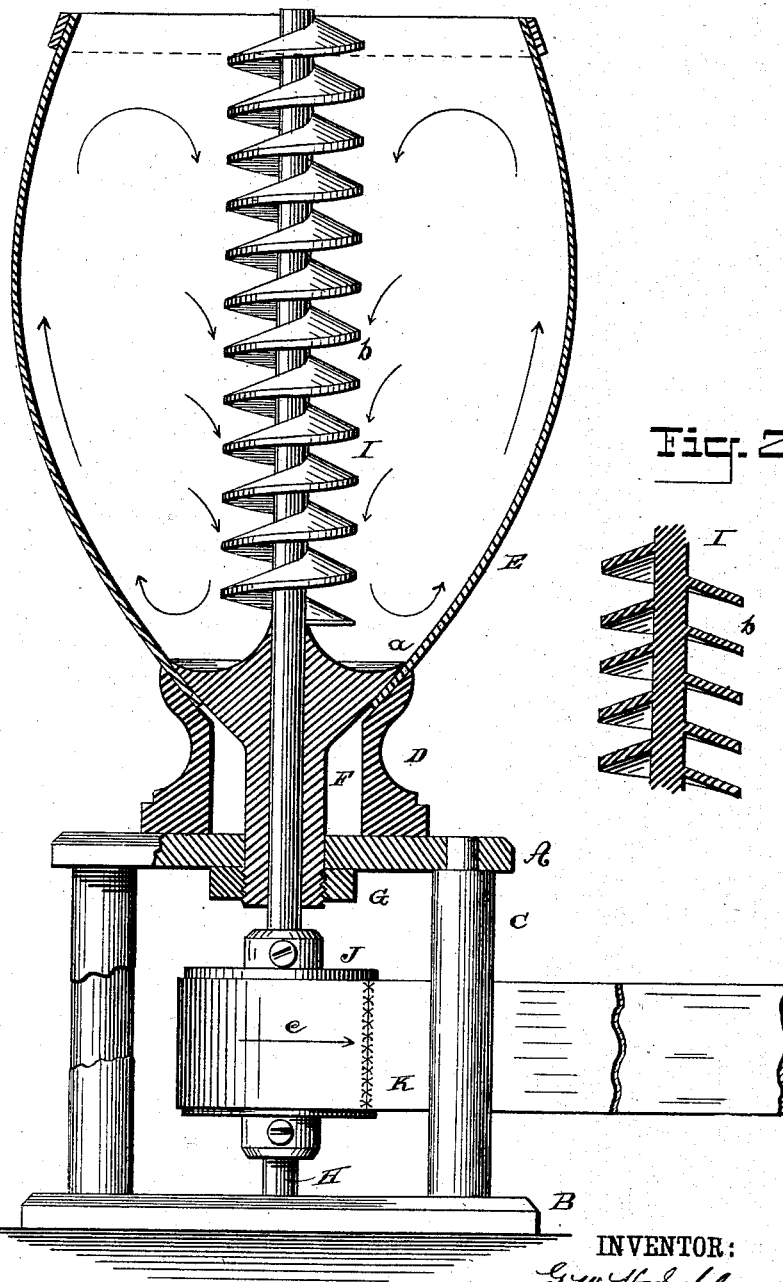


Fig. 2.

WITNESSES:

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GEORGE W. H. SAFELY, OF NEW ORLEANS, LOUISIANA.

BRAN-REMOVER.

SPECIFICATION forming part of Letters Patent No. 384,719, dated June 19, 1888.

Application filed April 25, 1887. Serial No. 236,096. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. H. SAFELY, of New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and Improved Bran-Remover, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a vertical central section of my improved bran-remover, and Fig. 2 is a longitudinal section of part of the grain-propelling screw.

Similar letters of reference indicate corresponding parts in both views.

The object of my invention is to construct a machine for removing the bran from rice and other grain after hulling.

My invention consists in a vessel having approximately the form of the frustum of a hollow ellipsoid, the walls of the vessel being turned inward and upward at the lower and smaller end, and in the combination, with the said vessel, of a shaft journaled in the axis of the vessel and carrying a screw having deep threads inclined downward and outward from the shaft for engaging the grain and forcing it downward in the vessel, thus securing the circulation of the grain necessary for the removal of the skin or bran.

The main frame of the machine is formed of the upper and lower plates, A B, connected by posts C. Upon the upper plate is fitted a collar, D, for receiving the lower end of the vessel E, which is approximately of the form of the frustum of a hollow ellipsoid, and to the lower edges of the side walls of the vessel E is fitted the beveled flange *a* of a sleeve, F, which clamps the lower edges of the walls of the vessel securely against the beveled inner edge of the collar D. The sleeve F extends through the plate A, and is threaded to receive a nut, G, by which all of the parts of the vessel are secured to the plate. The upper surface of the flange *a* is concaved to form a continuation of the walls of the vessel E, the surface of the said flange first curving downward near its periphery, and then upward at the center of the flange.

In the sleeve F and in a step in the center of the lower plate, B, is journaled a shaft, H, which projects upward through the sleeve F and carries a screw, I, which may be attached to the shaft H or formed integrally therewith. The threads *b* of the screw I are made very

deep in proportion to the diameter of the screw, and the space between the threads is wider than the threads, and the threads are made to pitch downward toward the bottom of the vessel, as clearly shown in Fig. 2.

Upon the shaft H, between the plates A B, is secured a pulley, J, which receives the belt K, by which the machine is driven. When the vessel E is filled with rice or other hulled grain and the screw is rotated in the direction indicated by the arrow *c*, the grain is driven down in the center of the vessel by the screw and forced upward along the outer walls, when it flows inward toward the screw and is again forced down, (as indicated by the arrows on opposite sides of the screw,) rendering the operation continuous. The grain is subjected to this treatment until the bran is thoroughly separated from the grain. The downwardly-inclined threads give the screw a hold upon the grain, which carries the grain rapidly downward and insures the circulation necessary to rapidly and thoroughly remove the bran from the grain.

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

1. In a bran-remover, the combination, with the vessel E, of a vertical shaft provided with screw-threads downwardly inclined on radii of the axis of the shaft, substantially as described.

2. In a bran-remover, the combination of a vessel having approximately the form of the frustum of a hollow ellipsoid, a shaft journaled axially in the said vessel, and a screw provided with threads downwardly inclined on radii of the axis of the shaft, carried by or formed upon the said shaft, substantially as described.

3. In a bran-remover, the combination of the vessel E, having the form of the frustum of an ellipsoid, the collar D, the sleeve F, provided with the concaved flange *a*, the shaft H, the screw I, carried thereby and provided with threads downwardly inclined from radii of the axis of the shaft H, and means, substantially as shown and described, for securing the vessel E and sleeve F to the supporting-frame of the machine.

GEORGE W. H. SAFELY.

Witnesses:

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