(No Model.)

W. A. WOODS.

BARK MILL.

No. 329,114. Patented Oct. 27, 1885.

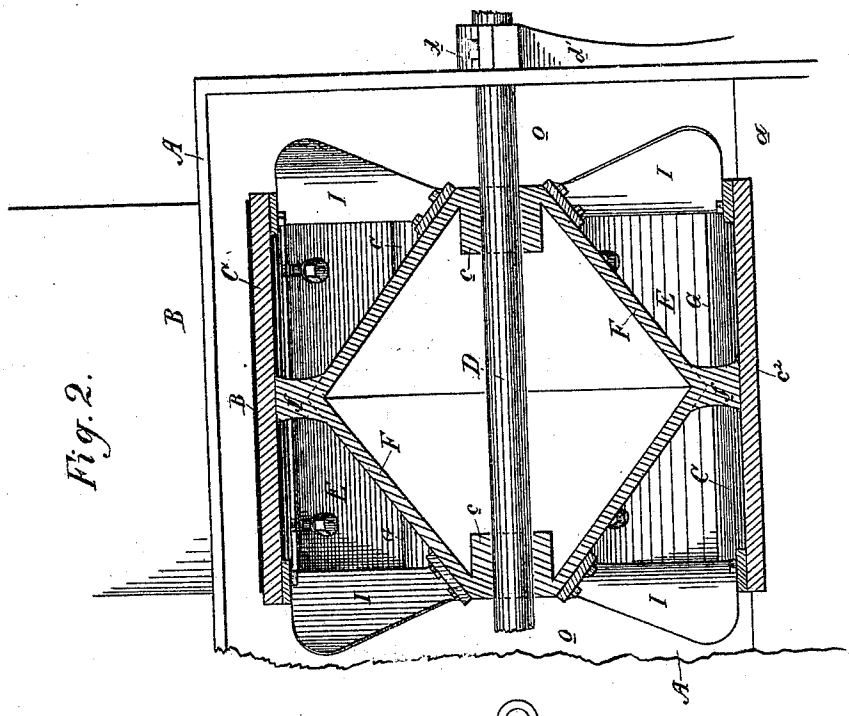


Fig. 2.

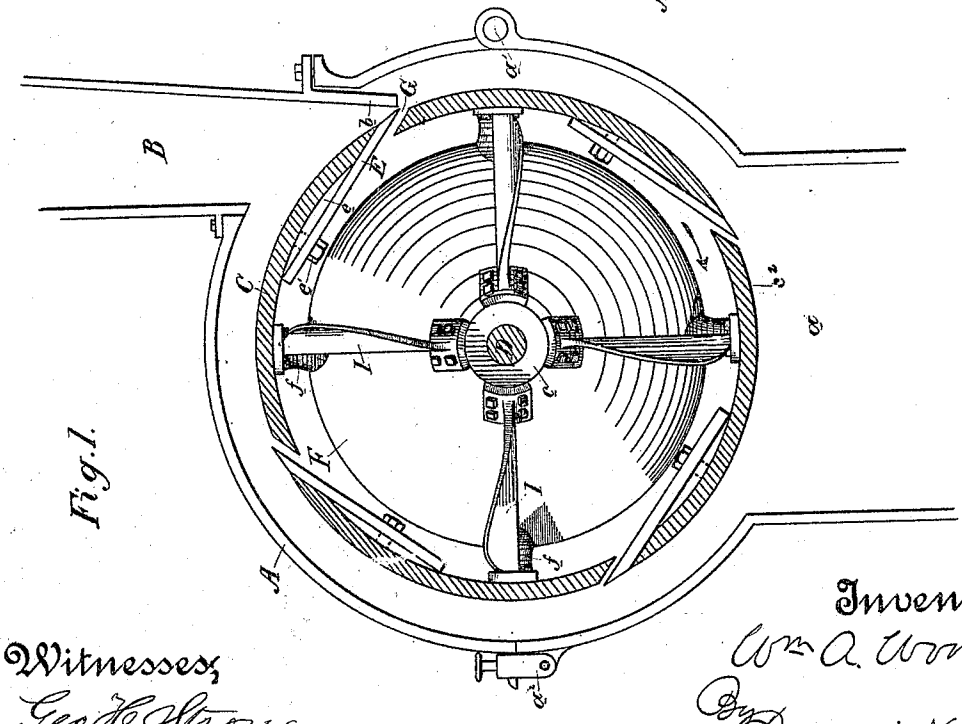


Fig. 1.

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UNITED STATES PATENT OFFICE.

WILLIAM A. WOODS, OF SANTA CRUZ, CALIFORNIA, ASSIGNOR TO RICHARD C. KIRBY, OF SAME PLACE.

BARK-MILL.

SPECIFICATION forming part of Letters Patent No. 329,114, dated October 27, 1885.

Application filed April 1, 1885. Serial No. 160,939. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. WOODS, of Santa Cruz, county of Santa Cruz, and State of California, have invented Improvements in Bark-Mills; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to a new and useful bark-mill of that class in which adjustable knives on a rotating cutter head or drum slice or cut the bark against the wall of the feed-hopper, suitable ejectors within the drum guiding and discharging the sliced or cut bark, all as exemplified in a bark-mill for which I have heretofore filed application for Letters Patent of the United States, on or about the 26th day of February, 1885, and to which was given the Serial No. 157,128, and upon which said mill my present invention is an improvement.

My present means of carrying out my invention consists in a novel circular or annular ejector-core, conical in cross-section and formed about the hubs of the drum and within its periphery, and peculiar side wings bolted to the inner surface of the periphery of the drum and to the outer surface of the base of the core and projecting into the space between the open ends of the drum and the outer casing, all of which I shall hereinafter fully describe, and specifically point out in the claims.

Referring to the accompanying drawings, Figure 1 is a side elevation of my bark-mill. Fig. 2 is a vertical longitudinal section of the same.

A is the cylindrical casing or shell, the bottom *a* of which is open and forms the discharge-aperture. The casing is a two-part one, hinged at *a'* and secured by a latch, a^2, whereby access to the interior is afforded.

Into the top of the casing, to one side of the plane of the vertical center, is let a hopper, B, the short or upper wall of which terminates with the casing, and its long or lower wall projects within it a short distance, as shown at *b*.

C is the cutter head or drum, consisting of hubs *c* and a peripheral band, c^2, supported in a manner I shall presently describe.

The drum is open-ended, and is mounted on a shaft, D, journaled in bearings *d* on brackets *d'*, and passing through the sides of the casing or shell.

Secured to lugs *e*, cast on the inner surface of the perimeter of the drum, are the knives or bits E, which may be adjusted longitudinally by means of bolts *e'*, passing through slots in the knives into the lugs. The cutting-edges or outer ends of the knives project slightly beyond the periphery of the drum through openings G therein, and in the rotation of said drum are adapted to pass in approximate relation to the long or lower wall of the hopper. This relation may be made closer or more distant by adjusting the knives on their bolts, as previously described.

F is the ejector-core. This is a continuous annular or circular piece, having the hubs *c* of the drum for a center, to which it is secured. Its sides converge to an apex-line, thus forming a conical shape in cross-section, its apex-line being in a vertical plane through the center of the drum. From its apex-line, at different points, extend radially short arms *f*, which support the peripheral band c^2 of the drum.

I are the side wings. These are pieces or blades having a propeller-like shape with a wide end or head and a narrow neck, as shown. The neck is secured to the base of the core F, while the head is bolted to the peripheral band of the drum. Their bodies project in a curved or slanting position into the spaces *o*, which are formed between the ends of the drum and the sides of the casing.

The operation of the mill is as follows: The bark is placed in hopper B, the lower end of which rests, as before described, in close relation with the periphery of drum C, through which the knives or bits E project. As the drum revolves in the direction indicated by the arrow, the bits are brought into contact with the bark, forcing it against the lower wall of the hopper at *b*, and causing a portion of it to be cut away by each successive bit equal to its projection from the outer surface of the drum. The slice thus cut is forced through the opening G in the perimeter of the drum, and falls upon the angling sides of the

continuous ejector-core, and is by them directed to the spaces *o* between the open ends of the drum and the sides of the casing. Here it is assisted in its discharge by the side wings, I, which, in addition to creating an exhaust or suction, whereby the dust is kept down and the feed rendered positive, keep the spaces *o* and the ends of the drum free and prevent clogging.

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

1. In a bark-mill, the cylindrical head or drum, provided with the circular or annular ejector-core, which is conical in cross-section and arranged within the circumference of the cylindrical cutter head or drum, substantially as and for the purpose herein described.

2. In a bark-mill, the exterior casing or shell, in combination with the rotating cutter-head provided with the side wings, I, projecting into the spaces between the ends of the cutter head or drum and the exterior casing or shell, substantially as and for the purpose herein described.

3. In a bark-mill, the rotating open ended cylindrical cutter head or drum C, having knives or bits E projecting from its periphery, in combination with the circular or annular ejector-core F, within and concentric with the perimeter of the cutter-head and cone-shaped in cross-section, adapted to direct the bark toward the open ends of the head, substantially as herein described.

4. In a bark-mill, the rotating open-ended cylindrical cutter head or drum C, consisting of hubs *c* and a peripheral band, c^2, in combination with the circular or annular ejector-core F, formed about and secured to the hubs, and having outwardly converging or slanting sides, and the arms *f*, extending from the ridge-line of the core and supporting the peripheral band c^2 of the cutter-head, substantially as herein described.

5. In a bark-mill, the rotating open-ended cylindrical cutter head or drum C, consisting of hubs *c* and peripheral band c^2, in combination with the circular or annular ejector-core F, formed about and secured to the hubs, and having outwardly converging or slanting sides, the arms *f*, extending from the ridge-line of the core and supporting band c^2, and the side wings, I, secured to the base of the core and to the band c^2, and projecting beyond the ends of the cutter-head, substantially as herein described.

6. A bark-mill comprising the casing or shell A, having an open base, *a*, the rotating open-ended cylindrical cutter head or drum C, within the casing, the circular or annular ejector-core F, within and concentric with the cutter-head, having outwardly converging or slanting sides, the side wings, I, secured to the drum and core and projecting within the spaces between the ends of the cutter-head and the sides of the casing, the adjustable knives or bits E, projecting through openings G in perimeter of the casing, and the hopper B, let into the casing at one side of its vertical center, and having its lower wall projecting at *b* in relation with the knives, substantially as herein described.

In witness whereof I have hereunto set my hand.

WILLIAM A. WOODS.

Witnesses:

S. H. NOURSE,

H. C. LEE.