(No Model.)

2 Sheets—Sheet 1.

B. OTT.

BARK MILL.

No. 340,922. Patented Apr. 27, 1886.

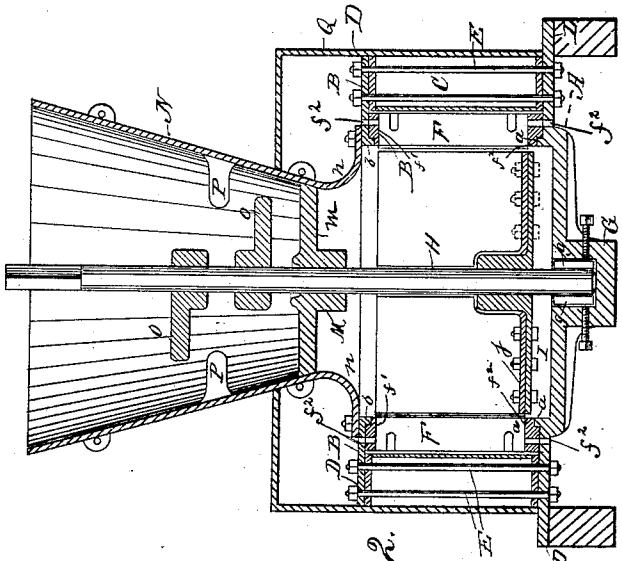


Fig. 2.

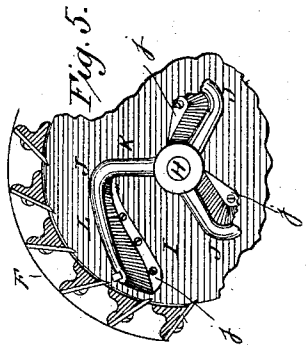


Fig. 5.

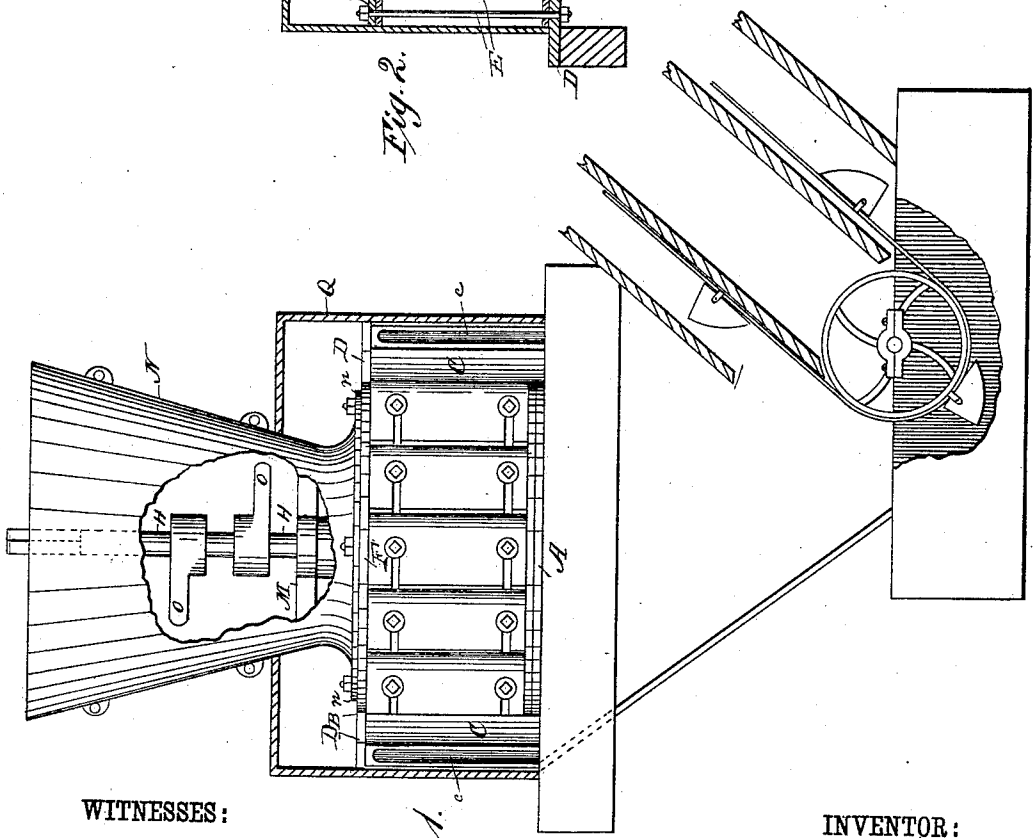


Fig. 1.

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N. PETERS. Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

B. OTT.

BARK MILL.

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Fig. 3.

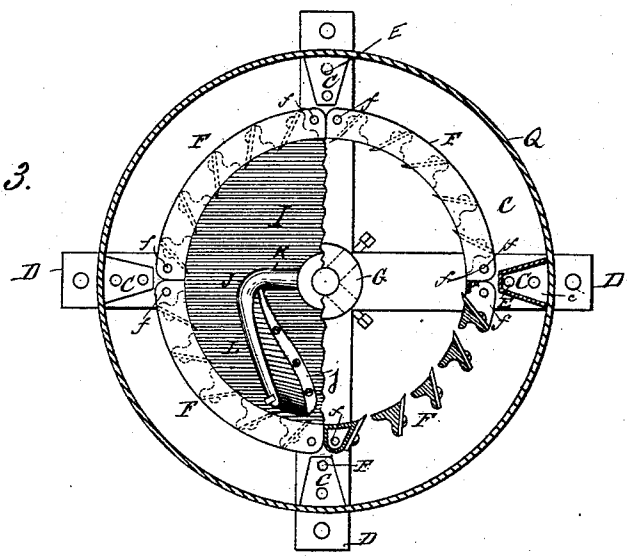
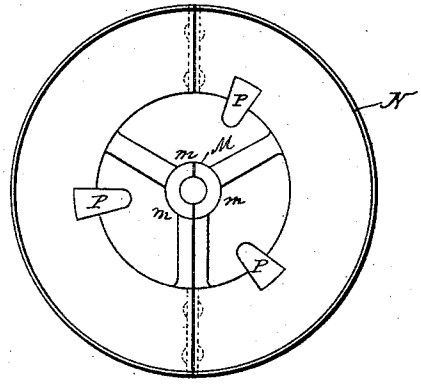


Fig. 4.



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UNITED STATES PATENT OFFICE.

BENEDICT OTT, OF LA CROSSE, WISCONSIN.

BARK-MILL.

SPECIFICATION forming part of Letters Patent No. 340,922, dated April 27, 1886.

Application filed December 2, 1885. Serial No. 184,514. (No model.)

To all whom it may concern:

Be it known that I, BENEDICT OTT, of La Crosse, in the county of La Crosse and State of Wisconsin, have invented a new and useful Improvement in Bark-Mills, of which the following is a description.

This invention is an improvement in bark-mills, and relates especially to that class of such machines in which the bark is rapidly revolved by a carrier operating within a cylinder supplied with radial openings and cutters.

The invention consists in certain features of construction and combination of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of my machine, the casing being in section and part of the hopper broken away. Fig. 2 is a vertical section of the mill. Fig. 3 is a transverse section through the casing and part of the cutter-cylinder. Fig. 4 is a top plan view of the hopper and the upper bearing of the shaft. Fig. 5 is a broken detached plan and sectional view of the carrier and the cutter-cylinder.

The main frame is shown as composed of a base-plate, A, mounted on a support, a top plate, B, and uprights C, set between the base and top plates. These uprights are preferably secured between radial lugs D, projected from the top and bottom plates, and are formed with sides set at inclines diverging outwardly, so as to admit the cylinder-sections, presently to be described, and present but little obstruction to the passage of the bark out of the cylinder. I also form these uprights hollow, thereby combining lightness and strength, and usually open at their outer sides, as shown at *c*, Figs. 1 and 3, to permit the convenient placing of the bolts, presently to be described. Bolts or rods E extend between the top and base plates and through the uprights C, connecting such parts firmly, and yet so they may be easily detached when desired.

The lugs D of the bottom plate, it will be seen, rest upon the support, which has an opening, as shown in Fig. 2, through which the cut bark received from the mill passes down to a receiver, in which I usually arrange one end of an elevator for raising the shavings to any suitable point. At their inner edges the bottom and top plates, A and B, are formed with shoulders *a* and *b*, projecting, respectively, up and down, and serving as stops, against which to abut the cylinder-sections, presently to be described.

The cylinder may be of even bore or tapering, as desired, and is formed in segmental sections F—usually four, as shown—and provided with radial openings and with knives secured therein, as shown in Figs. 1, 3, and 4. These sections abut at their inner ends against the shoulders *a* and *b*, by which they may be quickly and accurately set to position, and they are each usually secured at each end by pins or bolts *f*, passed through the top and bottom plates, f' f^2, of the section into the top and bottom plates of the main frame, or, where desired, keys may be employed to secure such parts. By detaching one end of a section it may be swung open to permit access to the interior of the mill, in order to clean out the same, remove obstructions, or for any other desired purpose. Another and important advantage in this construction is that by it the cylinder may be removed and another substituted in its place without affecting the other parts of the machine. A mill can thus be supplied with two sectional cylinders and be run practically all the time, as one cylinder may be repaired while the other is in use.

I prefer to form the sections alike, so that in some instances one extra section may be furnished, the cylinder repaired, and the knives sharpened by substituting such extra section for one of the regular sections while repairing the latter. I usually rabbet the inner edges of the sections where they abut against shoulders *a b*, to form a close fit, as shown most clearly in Fig. 2.

The base-plate A is provided centrally with a bearing, G, for the carrier-shaft, which bearing may be provided with quarter-boxes *g*, adjustably secured by set-screws, as shown. The shaft H has its lower end stepped in the bearing G. On this shaft I secure the carrier-plate I. The shaft and the plate form the carrier, to which is secured the presser or pressers J. This presser is formed with wings K and L, and is preferably provided with a rearwardly-extended base-flange, *j*, to receive the bolts by which it is secured to the carrier-plate. The wing K, I call the "division-wing," and it extends approximately radial

to the carrier-shaft, and the wing L projects from the outer end of the division-wing at about a right angle and rearwardly with reference to the line of motion. This wing is also inclined or tapered rearwardly from its upper to its lower side, as most clearly shown in Figs. 3 and 5. The outer end of wing L, it will be seen, moves close to the knives, and the arrangement thereof is such that a long wedge-like space is formed between said wing and the cutter-cylinder, so that each presser, of which I usually use three, will be pressing the bark against several knives at the same instant, thus greatly increasing the capacity of the machine. The lower end of the shaft being stepped in bearing G, it is further supported in bearing M, which is preferably supported in the hopper, but manifestly might be a part of the top plate, B.

The hopper N is divided longitudinally into two segmental sections, which are detachably joined, usually by bolts, as shown. At its lower end the hopper is formed with a flange, *n*, bolted or otherwise detachably joined to the main frame. The bearing M is formed by two frames, *m*, each secured to one of the sections of the hopper and provided with half-bearings, which coincide when the hopper is closed and form a bearing for the shaft above the main frame. By this sectional formation of the hopper one section may be opened to permit access to the interior of the mill, as may be desired. Interlapping breakers O and P are secured, respectively, to the shaft and the hopper, and operate to completely disintegrate the bark and put the same into proper condition for the cutters or knives.

A case, Q, is placed over the main frame of the machine. This case may be formed in sections and slipped over the machine from opposite sides or be otherwise suitably formed, its function being to prevent the cut bark from being spread laterally and force such bark to discharge through the openings provided for it between the lugs D of the base-plate A.

In operation the bark is broken in small pieces in the hopper by the breakers, and passes thence onto the carrier, where it is forced onto the knives and cut into shavings, as will be clearly understood from the preceding description.

Having thus described my invention, what I claim as new is—

1. The combination, with the shaft and the main frame having a bearing for the lower end thereof, of the hopper divided longitudinally into sections, and frames connected one with each of said sections, each of said frames being provided with a segment of a bearing for the shaft, substantially as set forth.

2. The combination, with the top and base plates, of the uprights placed between them and having their sides formed in lines diverging outwardly, the cutter-cylinder sections, and the carrier, substantially as set forth.

3. The combination, with the cutter-cylinder, the carrier-plate, and the shaft, of a presser provided with a base-flange rested on said plate, and fastening-bolts passed through said flange into the plate, substantially as set forth.

4. The combination, with the top and bottom plates, of the cutter-cylinder sections and the bolts f^2, connecting said sections at or near their ends with said plates, whereby by releasing one end of said sections they may be turned on the bolts at the opposite ends as on pivots, substantially as set forth.

BENEDICT OTT.

Witnesses:
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H. J. PECK.