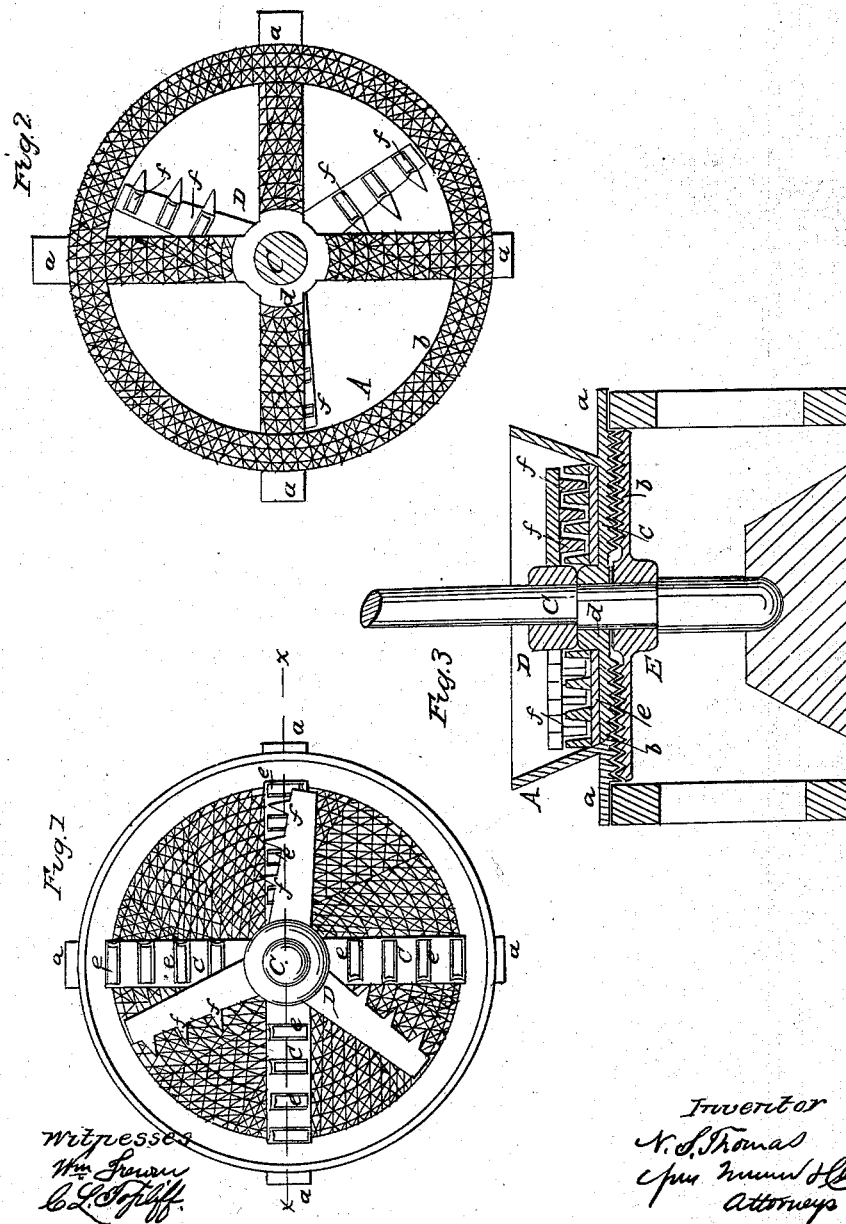


N. S. THOMAS.

Bark Mill.

No. 49,319.

Patented Aug. 8, 1865.



Witnesses
Wm. L. Brown
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UNITED STATES PATENT OFFICE.

N. SPENCER THOMAS, OF PAINTED POST, NEW YORK.

IMPROVEMENT IN BARK-MILLS.

Specification forming part of Letters Patent No. 49,319, dated August 8, 1865.

To all whom it may concern:

Be it known that I, N. SPENCER THOMAS, of Painted Post, in the county of Steuben and State of New York, have invented a new and Improved Bark-Mill; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a plan or top view of the invention. Fig. 2 is an inverted plan of the stationary hopper. Fig. 3 is a vertical central section of the mill, the line *xx*, Fig. 1, indicating the plane of section.

Similar letters of reference indicate corresponding parts.

This invention consists in a stationary hopper provided with a rim and arms made rough at their lower surfaces and with teeth projecting upward from the upper surfaces of said arms, in combination with a revolving rough-surface disk below and a toothed revolving breaker above, in such a manner that by the action of said revolving breaker and toothed stationary arms the bark thrown into the hopper is crushed, and by the combined action of the rough-surface disk and the corresponding rough-surface rim and arms of the stationary hopper the crushed bark is reduced to the desired fineness in a simple and effective way, the whole being so constructed that it is simple in its construction, not liable to get out of repair, and operated with comparatively little power.

A represents a hopper, which is made of cast-iron or other suitable material, and secured by means of ears or brackets *a* to a stationary supporting frame-work of any desired description. Said hopper is cast solid with, or otherwise rigidly attached to, a rim, *b*, the lower surface of which is made rough, as shown in Figs. 2 and 3, and from this rim extend radial arms *c* to the central hub, *d*. The lower surfaces of said arms *c* are made rough like the rim, and from their upper surfaces rise teeth *e*, as clearly shown in Figs. 1 and 3. The hub *d* is bored out to admit the vertical shaft

C, which rises in a suitable step below and in a journal-box above, and to which a revolving motion is imparted by band-wheels or gear-wheels in any desirable manner.

Above the arms *c* of the hopper is the breaker *D*, and below the rough-surface rim *b* is the disk *E*, both being mounted on the central shaft and keyed to the same, so that they are compelled to revolve with it. The breaker *D* consists of three (more or less) arms radiating from a central hub and provided with teeth *f*, which run between the teeth *e* of the stationary arms *c*. The advancing edges of the teeth *f* are sharp, and by their action, combined with that of the stationary teeth *e*, the bark thrown into the hopper is crushed and reduced to such a state that it is fit to be exposed to the grinding-surfaces.

The upper surface of the disk *E* is rough, to correspond to the rough surfaces of the rim *b* and arms *c*, and as the disk revolves the bark, after having been crushed by the breaker *D*, is ground down to the desired fineness. The ground bark discharges all round, and its fineness can be determined by the nature of the rough surfaces and by setting the grinding-surfaces closer together or farther apart.

The entire apparatus is very simple in its construction, it can be made cheap, and its operation requires little or no attention beyond what is necessary to keep it fed with the requisite supply of bark. It is obvious that it may also be used for reducing or grinding other materials besides tan-bark, though it is particularly designed for this latter purpose.

I claim as new and desire to secure by Letters Patent—

The stationary hopper *A*, provided with a circular rim, *b*, having a rough surface below, and with arms *c*, having a rough surface below and teeth *e* above, in combination with the revolving rough-surface disk *E* and breaker *D*, all constructed and operating as and for the purpose set forth.

N. SPENCER THOMAS.

Witnesses:

C. F. PLATT,
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