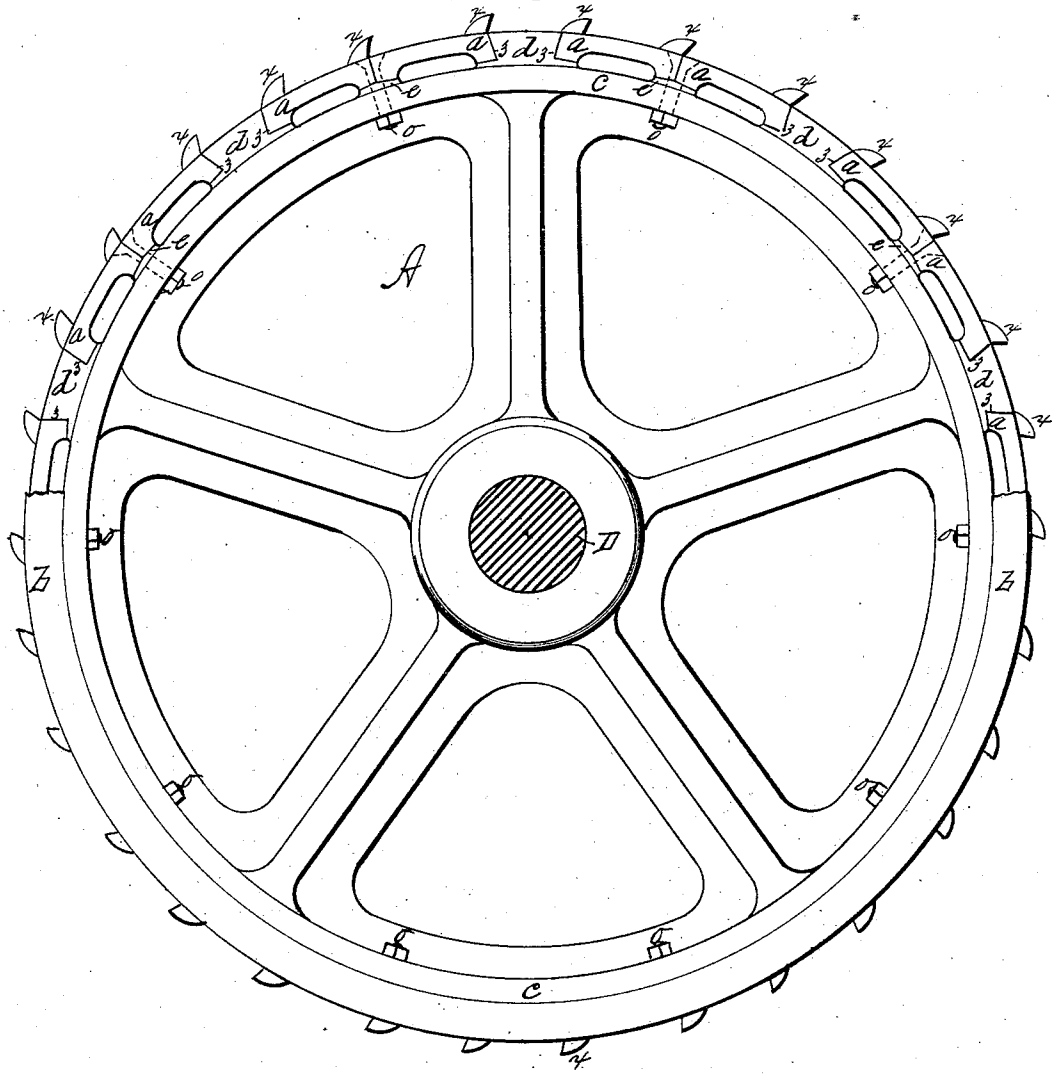
(No Model.) 2 Sheets—Sheet 1.

L. B. CLARK.

GRINDING WHEEL FOR BARK MILLS.

No. 300,048. Patented June 10, 1884.

Fig 1



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(No Model.) 2 Sheets—Sheet 2.

L. B. CLARK.

GRINDING WHEEL FOR BARK MILLS.

No. 300,048. Patented June 10, 1884.

Fig 2

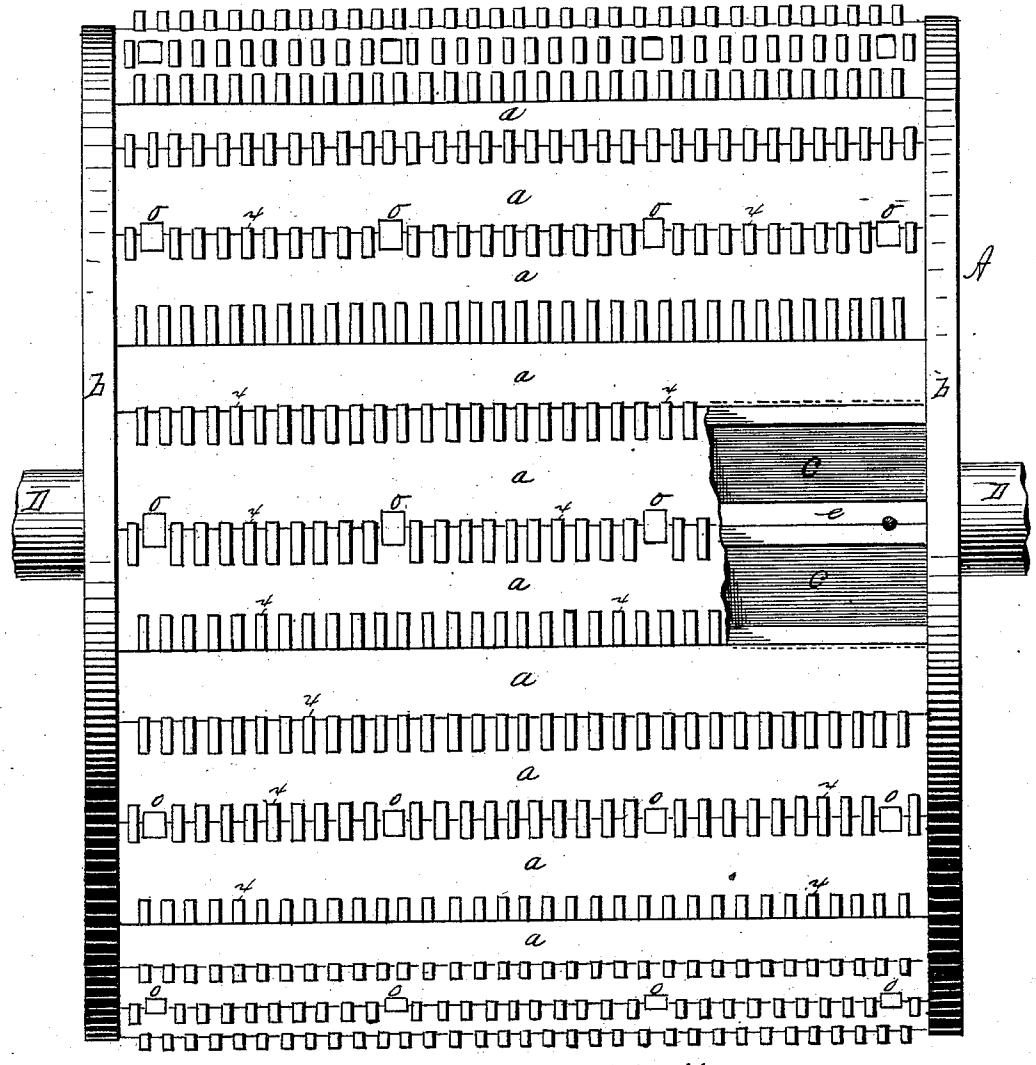
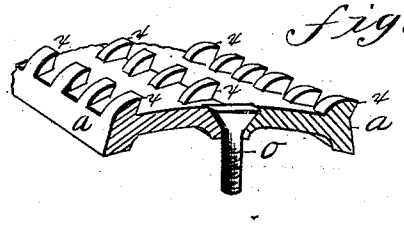


Fig 3



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UNITED STATES PATENT OFFICE.

LLOYD B. CLARK, OF SPRINGFIELD, MASSACHUSETTS.

GRINDING-WHEEL FOR BARK-MILLS.

SPECIFICATION forming part of Letters Patent No. 300,048, dated June 10, 1884.

Application filed February 25, 1884. (No model.)

To all whom it may concern:

Be it known that I, LLOYD B. CLARK, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Grinding-Wheels for Bark-Mills, of which the following is a specification.

This invention relates to improvements in grinding-wheels for bark-mills, the object being to provide improved tooth-plates therefor and improved means for securing the tooth-plates to the wheel, whereby the cost of such plates is much reduced, and means are provided for quickly attaching the plates to the wheel and for conveniently replacing worn-out tooth-plates with new ones.

In the drawings forming part of this specification, Figure 1 is an end view, partly broken away, of a bark-grinding wheel embodying my invention. Fig. 2 is a plan view partly broken away. Fig. 3 illustrates a section of two of the tooth-plates and the bolt by which they are secured to the wheel.

In the drawings, A is the grinding-wheel, provided with the usual shaft, D. The rim of the wheel or its face is indicated by *c*, and at each end of the wheel is placed a wrought-iron band, *b*, which is shrunk onto it, the wheel being of cast-iron, whereby the latter is strengthened.

Upon the face *c* of the wheel, running from end to end thereof, is a series of abutment-strips, *d*, whose opposite edges have formed therein the half-dovetail grooves 3 3, and between each two of the strips *d*, and parallel with the latter, is formed the bearing-strip *e*. The face of the strip *e* is made to incline from its center each way to its edges, and the line of incline of each side is on a line with the base of the half-dovetail groove 3 in the adjoining abutment-strip *d*. The strips *e* are perforated at several points to permit of passing the tooth-plate bolts through them.

The tooth-plates *a* are of cast-iron, having the teeth *x* thereof cast thereon and chill-hardened, or otherwise made sufficiently hard, to make them durable. The plates *a* are arranged in pairs on the wheel A, between the abutment-strips *d*, one plate of the pair having a row of teeth, *x*, along each edge, and one having a row along one edge, as shown in Fig. 3. The outer edge of each plate *a*—that is to say, the edge thereof which lies against the abutment-strip *d*—is made to fit the above-named half-dovetail groove 3 in said strip, and inclined-sided bolt-head seats are made in the meeting edges of the tooth-plates, half in each, to let the heads of the bolts *o* enter, so that their ends will be flush with the outer surface of the plates, as in Figs. 1 and 3. The bearing-faces on the under side of each edge of the plates *a* are made to conform to the lines of the faces of the strips *d* and *e*. The tooth-plates are made to so fill the space between the strips *d* that when they are placed on the wheel and the bolts *o* are firmly screwed down, they become rigidly attached to the wheel, and no resistance which the bark offers while being ground is sufficient to loosen or displace them. In practice the bolts *o* are secured by two nuts, if need be, one being a set-nut; or a single lock-nut may be employed. The ends of plates *a* fit closely against the inner sides of the bands *b*.

In bark-grinding-mills the wear of the teeth on the grinding-wheel is such that they require frequent replacing, and to obviate the frequent and long stoppage of the mill for this purpose, it is desirable that means be provided for quickly replacing the worn or broken teeth. In this construction, to replace any of the plates *a*, the teeth on which are worn out or broken, it is only required to remove the bolts between the plates, take off the latter, put on others, and secure the bolts.

The tooth-plates *a* are provided at a moderate cost, since they are cast entire in the form in which they are applied to the wheel.

What I claim as my invention is—

1. An improved bark-mill grinding-wheel having thereon a series of abutment-strips whose sides are grooved to receive the edges of the tooth-plates, and a series of bearing-strips located between the abutment-strips, tooth-plates having separated teeth, substantially as described, to fit between the latter and bear thereupon and on the bearing-strips, and bolts, substantially as described, for securing said plates to the wheel, substantially as set forth.

2. An improved tooth-plate for bark-mill

grinding-wheels, consisting of the plate *a*, having separated teeth thereon integral therewith and hardened, and having bearing-surfaces beneath its opposite edges, substantially as set forth.

3. The wheel A, having the bands *b* applied thereto, and the strips *d* and *e* extending from end to end thereof, the tooth-plates *a*, and the bolts *o*, substantially as set forth.

LLOYD B. CLARK.

Witnesses:
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J. D. GARFIELD.