Marsh & Nichols.

Grinding Mill.

No. 6,834. Patented Oct. 30, 1849.

Fig. 1.

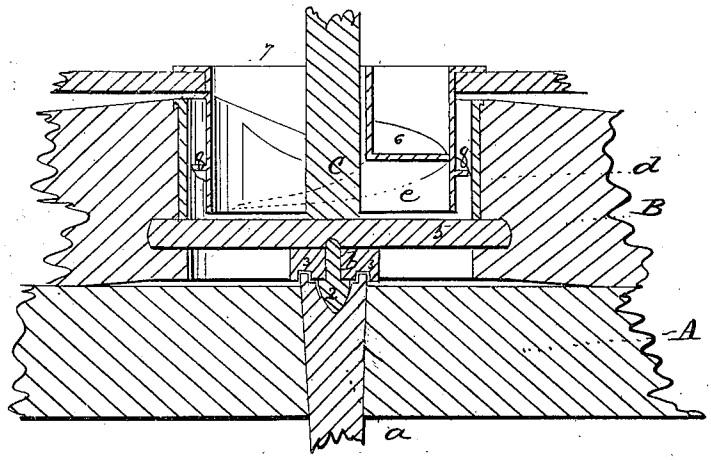


Fig. 2.

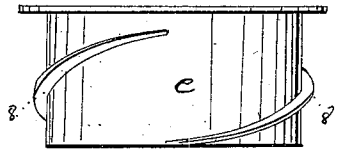


Fig. 5.

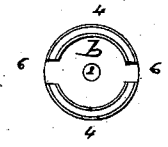


Fig. 3.

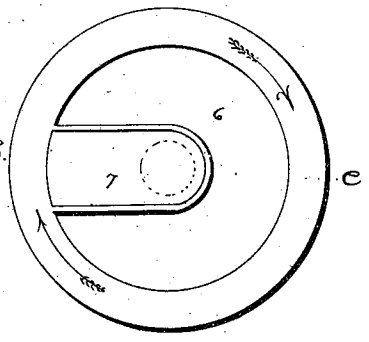


Fig. 6.

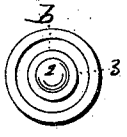
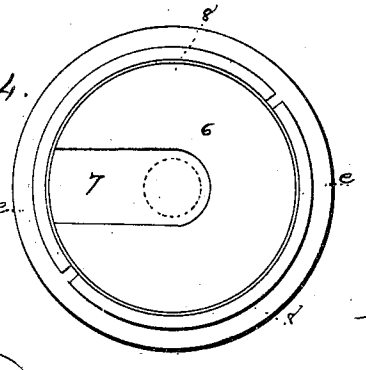


Fig. 4.



Witnesses:

Joseph Banks

John Moody

Inventor:

David Marsh

Eli B Nichols

UNITED STATES PATENT OFFICE.

DAVID MARSH AND ELI B. NICHOLS, OF FAIRFIELD, CONNECTICUT.

MILL FOR GRINDING.

Specification of Letters Patent No. 6,834, dated October 30, 1849.

To all whom it may concern:

Be it known that we, DAVID MARSH and ELI B. NICHOLS, of Fairfield, Fairfield county, State of Connecticut, millers, have invented and made and applied to use certain new and useful improvements in the construction of the eye and spindle cups of grinding-mills by which the grain is prevented from jumping out of the center, at the same time forcing it down, thereby grinding more quickly than without these improvements, which include an improvement in the connection of the driving-spindle and parts beneath, for which improvements we seek Letters Patent of the United States, and that the said improvements are fully and substantially set forth and shown in the following description and in the drawing annexed to and making part of this specification, wherein—

Figure 1 is a sectional elevation of the eye, showing the two stones, and parts attached: the Fig. 2 is an elevation, and Figs. 3 and 4 are plans, of the bottom and top of the barrel, which we use to effect these objects; the other figures are separately referred to; and the same letters and numbers, as marks of reference, apply to the like parts in all the several figures.

In these A, is the nether stone; B, the running stone, constructed in any manner, and of any suitable materials; the nether stone receives the still spindle *a*, with a cup 1, in the upper end, taking a changeable center pin 2, in a cast iron box *b*, which is constructed with a groove and rabbet 3, on the under edge, to overlie the edges of the cup 1, preventing the accumulation of dust, &c., as shown in plan, in the detached Fig. 6 the upper end of the pin 2, forms a center to take the bail 5, which sets in notches 6, 6, in the edges 4, 4, of the cup, see the detached Fig. 5, on the upper side of the box *b*, which cup 4, receives the forked ends of the spindle *c*, so that by this construction, the forks going over the bail, and into the cup, are prevented from separating by the edges 4, of the cup.

The ends of the bail 5, are formed solid in the stone, and a cylinder, *d*, is fitted and secured in the eye, of the running stone B; and iron barrel *e*, is fitted with a flanch, to overlie the curb frame, above the upper edge of the cylinder *d*, and encircles the spindle to near the upper edge of the bail 5, and has formed within it a spiral worm or screw 6, leading from the top, and making nearly one turn inside the cylinder, the inner edges of this terminates in a fence, that sets nearly against the spindle *c*, and forms a slot 7, to the edge of the cylinder or barrel; this opening takes the end of the hopper shoe, the fence being the same height as the top of the cylinder *e*, and increasing in depth, as the screw piece 6, descends; this cylinder *e*, is made less in its external diameter, than the internal diameter of the cylinder *d*, and has on its outside, between the two cylinders, two or more worm flanches 8, 8, running in the same direction as the piece 6, these outside threads do not quite touch the inside of the cylinder *d*. When thus constructed, and power is applied, in any convenient manner, to the shaft *c*, and bail 5, these are made to rotate, and carry the cup *b*, and bail 5, with the running stone B, in the direction denoted by the arrow in the plan, Fig. 3, the hopper supplying grain or other materials to be ground, through the slot 7, the grain falls between the stones, and is carried around, under the plate 6, which screws it down, preventing the grain from jumping out of the eye, and forcing it to enter between the stones, and the screw pieces 8, 8, prevent any grain from getting between the cylinders, by acting in the same manner as the plate 6.

It will be seen, that the sizes and proportions of the parts may be varied, to suit the materials operated on; and that in this arrangement, we obviate the difficulty practically experienced, in the mills patented on the thirteenth of March, one thousand eight hundred and forty four, by us; viz. the splitting the fork of the spindle, as the sides of the cup *b*, effectually hold the same; and these improvements, in the shape of the cup, may be used either alone, or with other improvements contained in the above mentioned patent, and the feeding arrangement may be used with the common mill; although we prefer and use it, with the cup shown herein, and with the other improvements previously patented, as above referred to.

We do not claim to have invented a cup, to intervene between the bail spindle and fixed centering cup, but

What we do claim as new, and of our own invention, and desire to secure by Letters Patent of the U. S. is

1. The construction and application of the

cup *b*, with edges 4, 4, to receive the bail and spindle, preventing the ends of the spindle from separating, thereby forming a more permanent attachment to the bail.

2. The construction and application of the cylinder *e*, with screw flanches, 8, 8, outside, and spiral plate 6, inside, forming a screw to force the grain between the stones, and also to prevent its jumping out of the eye, as the running stones and bail give the grain, or other material, a rotary motion against the direction of the stationary screw flanch, substantially as described and shown.

In witness whereof, we have hereunto set our signatures this twentieth day of October, one thousand eight hundred and forty eight.

DAVID MARSH.
ELI B. NICHOLS.

Witnesses:
JESUP BANKS,
JOHN MOODY.