A. W. STRAUB.

GRINDING-MILL.

No. 186,440. Patented Jan. 23, 1877.

Fig. 1.

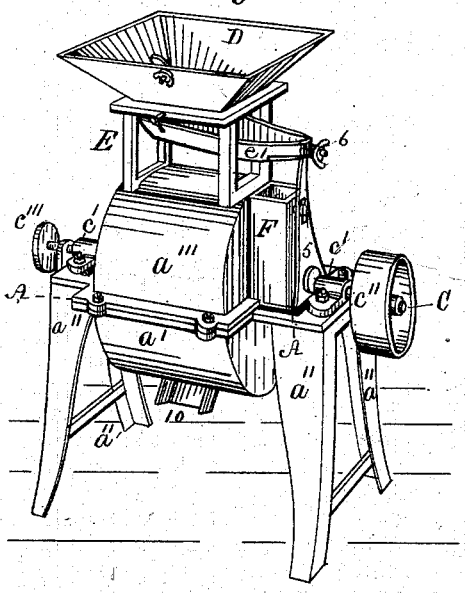


Fig. 2.

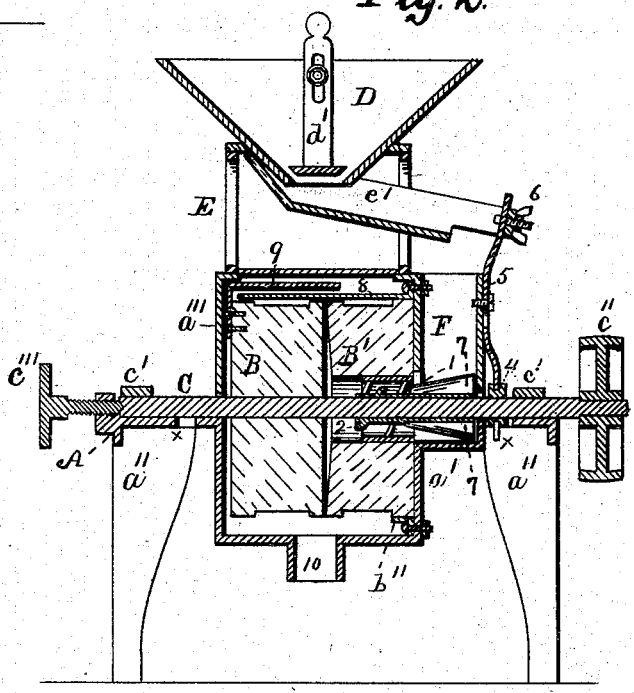
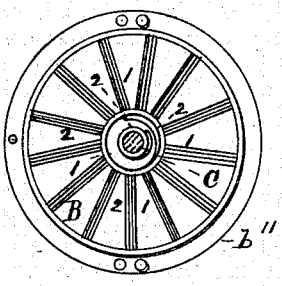


Fig. 3.



Witnesses:

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AMBROSE W. STRAUB, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN GRINDING-MILLS.

Specification forming part of Letters Patent No. **186,440**, dated January 23, 1877; application filed August 5, 1876.

To all whom it may concern:

Be it known that I, AMBROSE W. STRAUB, of the city of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Portable Grinding-Mills; and I do hereby declare that the following is a full, clear, and exact description of said improvement, reference being had to the accompanying drawing, in which—

Figure 1 is a perspective view of one of my improved mills in condition for immediate use; Fig. 2, a vertical longitudinal central section of Fig. 1; and Fig. 3, a face view of the stationary stone as secured fast in a cast-iron ring, which is adapted to be bolted fast to the end of the stone case of the bed-plate of the mill.

The object of my invention is to afford to farmers and others a good, cheap, durable, and simple mill, having French burr-stones, to take the place of the numerous class of portable iron mills heretofore used.

The bed-plate A, together with the pillow-blocks for the shaft C, and the sunken cavity a' for the lower half of each of the stones B and B′, are cast in one piece, and supported horizontally upon four cast-iron legs, a'', which are bolted firmly to the under side of A. The French burr-stones B B′ are supported vertically, the rotary one, B, upon the horizontal shaft C, and the other, B′, in a stationary manner, by means of a flanged ring, b'', cast around fast to the stone and bolted to the adjoining end of the sunken cavity, which forms the lower half a' of the case for the stones. The stationary stone B′ has a large central hole, through which the shaft C passes freely, the inside of said hole being provided with spirally-arranged cast-iron pins 1 1 1 1, which co-operate with like spiral pins 2 on this part of the shaft C, to carry the feed forward to the grinding-surfaces of the two stones by the rotary motions of the said shaft. The shaft is supported in journal-boxes c' c' at the respective ends of the bed-plate A, and has an over-necked band-pulley, c'', fixed at one end, and is adjusted longitudinally by a temper-screw, c''', at the journal-box of the other end, to regulate the degrees of fineness in the products of the mill. The hood or upper half a''' of the stone case rests on the bed-plate A, with a lead joint between. It has a large hole in its top, through which the operator can readily see when the stones are in tram. This hole is adjustably covered by the usual name-plate. The hopper D rests upon the stool E, and this latter is fixed on the top of the hood a'''. The bottom of the hopper has an adjustable valve, d', to control its discharge, and under the hopper hangs the feed-shoe e', which is agitated in front by a cam, 4, on the shaft C, with which it is connected by an adjustable bifurcated bar, 5. The inclination of the shoe e' is adjusted by means of a screw bolt and nut, 6, in the end of the shoe, which screw-nut bears against the bifurcated bar 5. The feed passes from the shoe down through a trunk, F, in which it comes into contact with a pair of spirally-arranged cutters, 7 7, which also serve to direct the feed into the eye of the stone B′, the said cutters being fixed on the shaft C. Near the inner side of each of the pillow-blocks, on which the shaft C rests there is a large opening, x, made through the bed-plate A for any grit which may work out of the case to fall to the floor, and thus prevent it from getting into the journal-boxes. Fixed across the perimeter of the stationary stone B is a projecting bar, 8, which extends across the perimeter of the rotating stone B, and nearly in contact with the latter, for the purpose of clearing the said perimeter of stone B from adhesions, while a like bar, 9, is fixed to the perimeter of said rotating stone, so as to extend across its perimeter and pass over the bar 8 during the rotary motions of said stone, for the purpose of clearing the surrounding inside surface of the case from adhesions. The stones B B′ are trammed by means of three set-screws (not shown) in the end of the lower half a' of the case. The bottom of said lower half of the case has an outlet-spout, 10, for the escape of the products of the mill. The cutters 7 7 on the shaft C are of great importance in grinding corn and cobs and similar articles used as food for cattle.

The whole of this improved portable mill is made of cast-iron, with the exception of the shaft C, which is of wrought-iron, and the grinding-disks B B′, which are of French burr-stone. Nearly all of the parts are easily detached from each other, and as easily united

together, which features are often of importance in transportation. Each part is comparatively light in view of the requisite strength and cost, and the effectiveness of the mill for the use of farmers, whether operated by steam or animal power, has been proved, wherever it has been introduced, as far superior to any of the portable farm-mills having the usual cast-iron grinding-disks. The pulley c'' being over-necked, the band can be instantly applied or detached without sewing or unsewing. The running-stone being fixed on the shaft, the mill runs as steadily as a fly-wheel, and, therefore, does not shake the building in which it may be running.

I claim as my invention—

1. In a portable grinding-mill, the bed-plate A, consisting of the flat horizontal portion, having the concave a' for receiving the lower halves of the two vertically-arranged burr-stones B and B′, the pillow-blocks or bearings for the shaft C, the spout or outlet-opening 10, and the dirt-escape holes x x, all cast in one piece, substantially as set forth and described.

2. The scrapers 8 and 9, in combination with the perimeters of the respective stones B and B′, and arranged to operate simultaneously, as and for the purposes set forth and described.

3. In a portable grinding-mill, the combination, substantially as described, of the journal-bearings c' c' and their removable caps, the dirt-escape holes x x, and the vertically-arranged stones B B′.

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Witnesses:

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