D. HESS.
Grinding Mill.

No. 200,722. Patented Feb. 26, 1878.

Fig. 1.

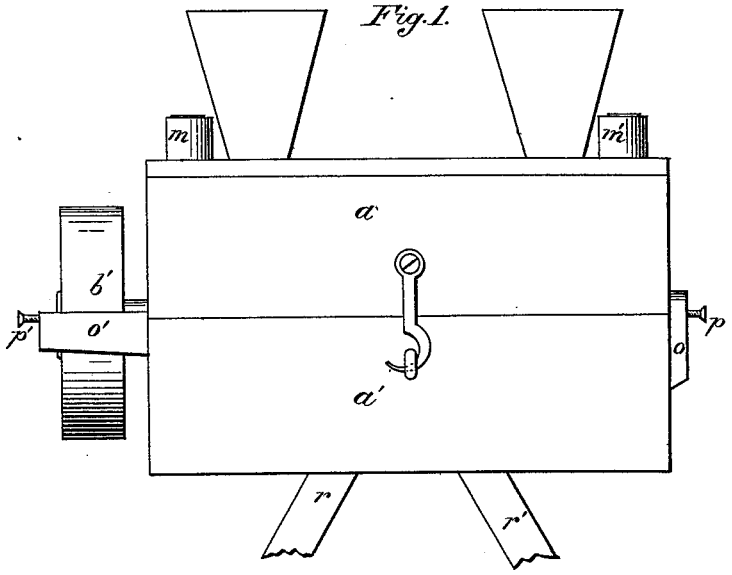


Fig. 2.

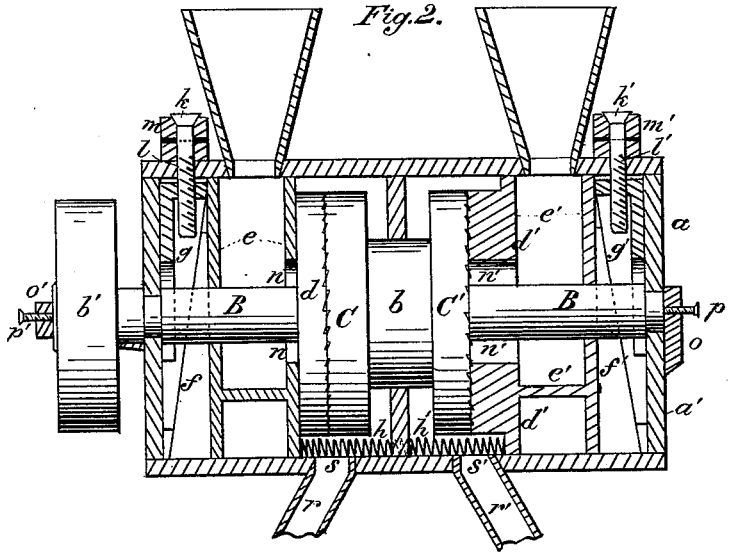
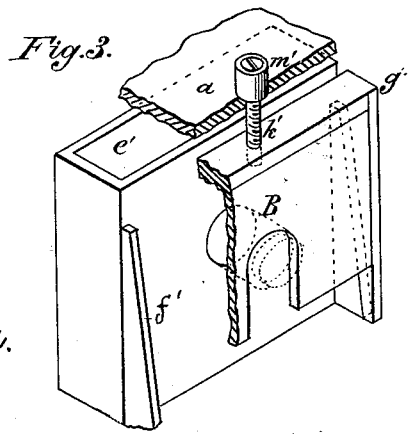


Fig. 3.



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UNITED STATES PATENT OFFICE.

DANIEL HESS, OF EVANSVILLE, INDIANA.

IMPROVEMENT IN GRINDING-MILLS.

Specification forming part of Letters Patent No. **200,722**, dated February 26, 1878; application filed October 27, 1877.

To all whom it may concern:

Be it known that I, DANIEL HESS, of Evansville, in the county of Vanderburg and State of Indiana, have invented certain new and useful Improvements in Metallic Mills; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to letters of reference marked thereon, which form a part of this specification, in which—

Figure 1 is a side elevation. Fig. 2 is a longitudinal sectional view of the case, showing the grinding mechanism in elevation; and Fig. 3 is a detached view of the supply-chamber and a portion of the adjusting-keys.

This invention relates to vertical-disk-action grinding-mills; and consists in the improved construction of the same, hereinafter more fully described, and particularly pointed out in the claim.

Among its merits are extreme simplicity, adapting it to use by all classes of people, and the absence of anything calculated to require more than ordinary knowledge in operating. It also merits notice from its cheapness of construction, being all cast metal with the exception of the shaft B, the only point requiring finishing being the inclines or wedges *f* and *f'*, their meeting surfaces being accurately adjusted to each other.

In the accompanying drawing, *a* represents the top of the case of the mill, and *a'* the bottom of the same, which may be provided with suitable lugs for fastening in the required position. The shaft B is provided with a two-faced cast-metal burr at the point *b*, keyed or securely locked to the shaft. Said shaft is further provided with a pulley at its end *b'*, through which motion is communicated to the revolving burrs C C'. The revolving burrs C C' have, opposite their grinding-faces, each a non-revolving burr, *d d'*. These form part, and are cast upon the outer sides, of the supply-chambers *e* and *e'*. The supply-chambers are the size of the inside of the case, which permits no motion to be imparted to them other than that required for the adjustment of the non-revolving burrs, which form part of them.

The back of the supply-chamber is provided with wedge-shaped lugs or projections *f* and *f'*, the faces of which come in contact with similar inclines on the vertical adjusting-keys *g* and *g'*. The grist passing from hoppers is received into the supply-chambers *e* and *e'*, thence through the openings *n* and *n'*, around the shaft B to the burrs, thence through the openings *s s* and tubes *r* and *r'* to a proper receptacle.

The springs *h* and *h'* are attached to the sides of the case, and their ends act against the lower inner corners of the supply-chambers *e* and *e'*, serving at all times to keep the grinding-surfaces of the burrs apart, the object being to prevent the grinding-faces of the burrs from coming in contact when running empty, and thereby preventing all unnecessary wear of the faces of the burrs.

The adjusting-keys *g* and *g'* are provided with vertical screws *k* and *k'*, passing through the top of the case at *l* and *l'*, the threaded end of said screws working into the top of the adjusting-keys *g* and *g'*.

It will readily be seen that, lowering the screws by means of the handles *m* and *m'*, the keys are forced downward, and by means of their wedge shape, acting upon the correspondingly-shaped projections on the supply-chambers, the latter will be forced forward, consequently the faces of the grinding-surfaces brought nearer, and a finer flour will be produced.

This simple and effective means of adjustment furnishes at the same time a perfectly firm and rigid bed for the non-revolving burrs, the large surfaces of the faces of the inclines insuring stability, while the slight power required to move the keys permits easy and rapid adjustment. The bottom of the case *a'* has at each end, in line with the shaft, an arm, *o* and *o'*, provided with screws *p* and *p'*, the office of which is to take up any end play the shaft may have.

The shaft B may be lengthened and a number of the two-faced grinders placed upon it up to the limit of the power used, each set of the burrs being separated from the others by a partition. There can be no mixing of the grists, and separate grists may be ground at the same time by the same mill for different

individuals without mixing the grists, thus enabling each to carry away the precise quantity and quality to which he is entitled.

The space occupied by this mill is a desideratum, for the reason that in an actual working mill the grinding-burrs will be no greater than five inches in diameter.

Having thus described my invention, what I claim as new and useful, and desire to secure by Letters Patent, is—

In a grinding-mill, the supply-chamber *e*, having a vertical non-revolving exterior disk fixed to one side, the vertical keys *f*, secured to its opposite exterior side, and the keys *g*, provided with the adjusting-screw *k* and the spring *h*, all constructed substantially as described, and for the purpose specified.

In testimony that I claim the foregoing as my own I hereby affix my signature in presence of two witnesses.

DANIEL HESS.

Witnesses:

THEODORE MUNGEN,

FENIMORE CHATTERTON.