

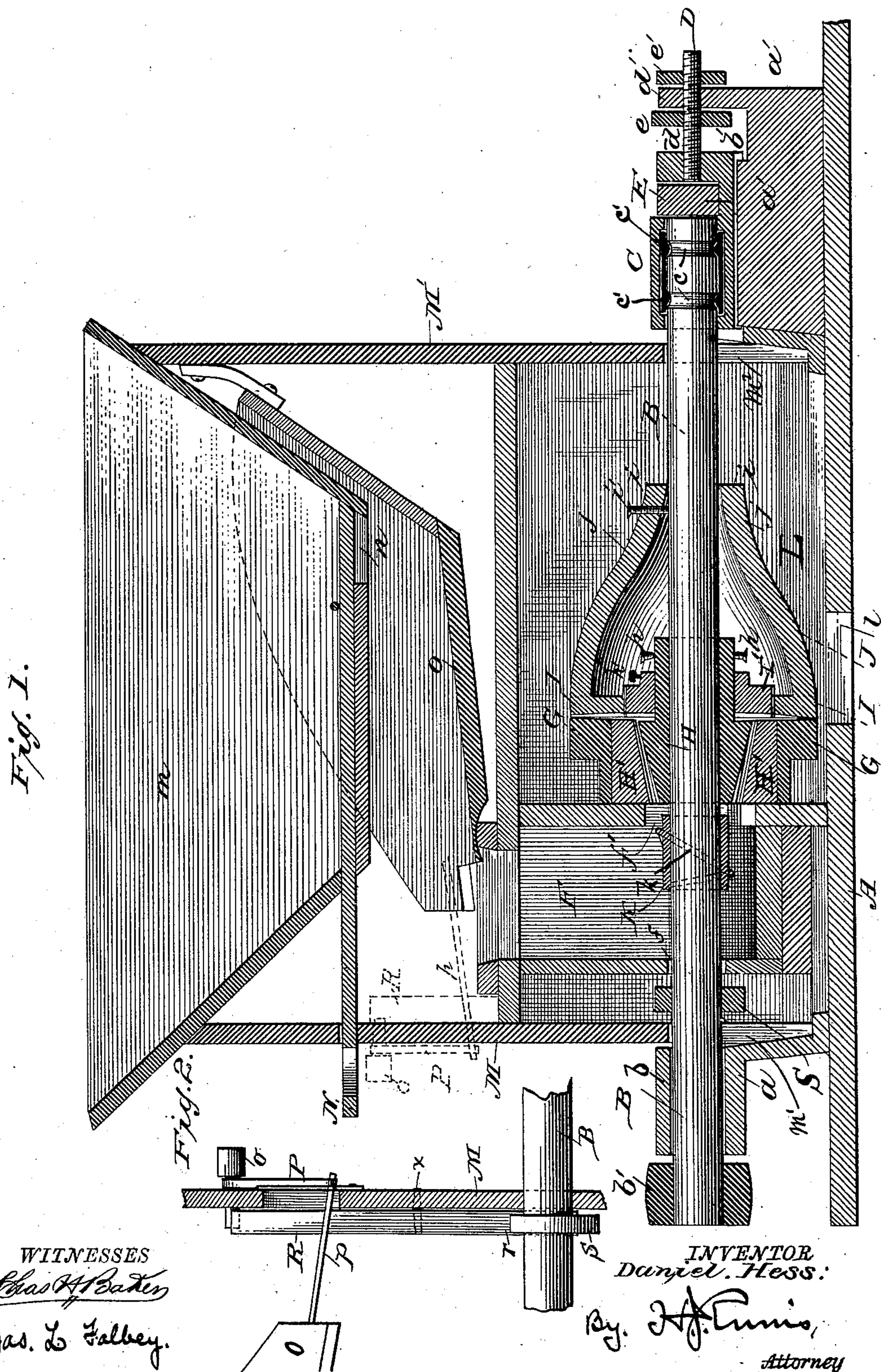
(No Model.)

2 Sheets—Sheet 1.

D. HESS.
GRINDING MILL.

No. 294,735.

Patented Mar. 4, 1884.



WITNESSES
Chas. H. Eaten
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INVENTOR
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(No Model.)

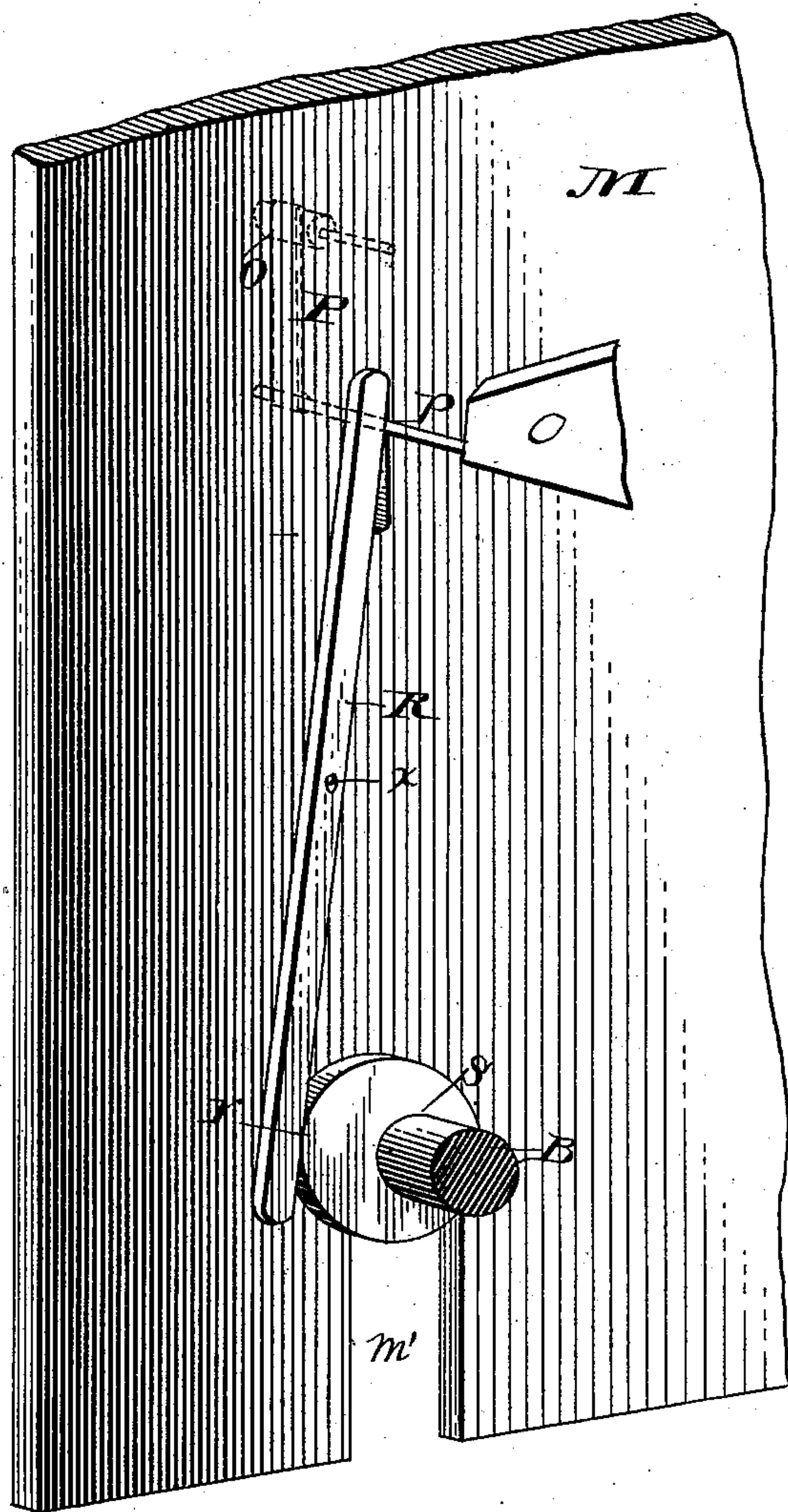
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Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

DANIEL HESS, OF ATLANTA, GEORGIA.

GRINDING-MILL.

SPECIFICATION forming part of Letters Patent No. 294,735, dated March 4, 1884.

Application filed April 20, 1883. (No model.)

To all whom it may concern:

Be it known that I, DANIEL HESS, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have
5 invented certain new and useful Improvements in Grinding-Mills, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention has relation to vertical-disk
10 grinding-mills; and its object is to provide a mill for grinding all kinds of grain and the usual feed for stock that will be simple and cheap in construction, effective in operation, and possess little liability to derangement of parts,
15 and that will not allow the burrs to get out of true or grind unevenly; and to these ends the novelty consists in the construction of the same, as will be hereinafter more fully described, and particularly pointed out in the claim.

20 In the accompanying drawings the same letters of reference indicate the same or like parts of the invention.

Figure 1 is a sectional side elevation of my improved mill. Fig. 2 is a detail edge view,
25 partly in section, of the devices for vibrating the feed-pan; and Fig. 3 is a side elevation of the same.

A is the bed-plate, which is provided with brackets *a a'*. In the bracket *a* is a bearing, *b*,
30 for the shaft B, which, at its outer end, is provided with a driving-pulley, *b'*, while the bracket *a'* is provided with a longitudinal groove, *b'*, in which is mounted the tongued box C, which forms a bearing for that end of the shaft B.
35 This end of the shaft has recesses *c*, into which fit collars *c'* in the box C, so that as the box is longitudinally adjusted it will carry the shaft with it.

D is a screw-rod rigidly secured to the end
40 *d* of the box C, and it extends through the arm *d'* of the bracket *a'*, and the said screw-rod is provided with two adjusting-nuts, *e e'*, located one on each side of the arm *d'*. It will thus be seen that by this construction of the parts the
45 box C and shaft B may readily be adjusted longitudinally, and when this is done they may be locked in position by screwing the nuts hard against the arm *d'*.

E is a thrust bearing block, against which
50 the end of the shaft abuts and revolves, and when worn may be replaced without changing the box C.

F is the feed-box, which is provided with a small opening, *f*, through which the shaft B passes, and with a larger one, *f'*, through which
55 the grain is fed by the externally-screw-threaded collar K into the mill. This feed-box is suitably mounted upon the bed-plate, and to one side thereof is secured the stationary burr G.

The conical crushing-burr H, which operates
60 in connection with a similarly-shaped shell, *H'*, in the burr G, is secured to the shaft B by set-screws *h*, and the grinding-disk I is provided with a tapering supporting-shell, J, formed integral therewith, and extending rearward, de-
65 creasing in size until its end *i* encompasses the shaft B, where it is secured by the set-screw *i'*.

I' is a collar rigidly secured by a set-screw,
70 *h'*, to the conical burr H, and its diameter is less than the central opening in the grinding-disk I, so that while it ordinarily keeps the disk I in a central position with reference to the shaft B, at the same time there is sufficient play between the collar I' and disk I to allow the latter to come into intimate or true relation
75 to the face of the burr G. It will thus be seen that by this construction the face of the grinding-disk I will adjust itself to the face of the stationary burr G, and consequently that their grinding-surfaces will bear evenly all around
80 and produce a uniform meal.

K is a collar secured upon the shaft B in the feed-box, and its periphery is provided with a coarse screw-thread, *k*, which feeds the grain to the burrs. The grain from the feed-box is car-
85 ried to the conical crushing-burr H and shell *H'*, and thence between the stationary grinder G and rotating disk I, whence it passes into the chamber L and into the meal-box through the opening *l*. By adjusting the box C by means
90 of the screw-rod D and nuts *e e'*, the shaft B is adjusted, and as the conical grinder H and disk I are secured to it, they are adjusted with reference to the burr G and shell *H'*.

M M' is a removable box-frame secured to
95 the bed-plate, and the upper end of this frame has the usual hopper, *m*, and slide N, which regulates the amount of grain passing through the opening *n*. This frame is provided with slots *m' m''*, which allow it to set down over the
100 shaft B and rest upon the bed-plate A, and it is secured thereto by hooks and staples. (Not shown.)

O is a shaking-pan, into which the grain drops

from the hopper *m*, and the degree of its inclination may be adjusted by turning the stud *o*, around which passes the belt *P*, attached to the rod *p*, secured to the discharge end of said
5 pan.

R is a lever pivoted to the inside of the frame *M* at *a*, its lower end, *r*, resting by gravity against the eccentric *S* on the shaft *B*, while its upper end comes in contact with the rod *p* on
10 the pan. The eccentric, as it rotates, oscillates the lever, and it in turn imparts a vibratory motion to the pan, which shakes the grain into the feed-box *F*.

I make no claim to the devices herein
15 shown and described other than as specifically

claimed, but prefer to use the features shown and described, but not claimed, in connection with the parts in which my invention resides.

What I claim is—

The feed-box *F*, the stationary burr *G*, and 20 conical crushing-shell *H'*, in combination with the driving-shaft *B*, the conical burr *H*, collar *I'*, grinding-disk *I*, provided with the tapering supporting-shell *J*, and set-screw *i'*, as set forth.

In testimony whereof I affix my signature in 25 presence of two witnesses.

DANIEL HESS.

Witnesses:

GEORGE JONES,

A. R. WILLIAMS.