

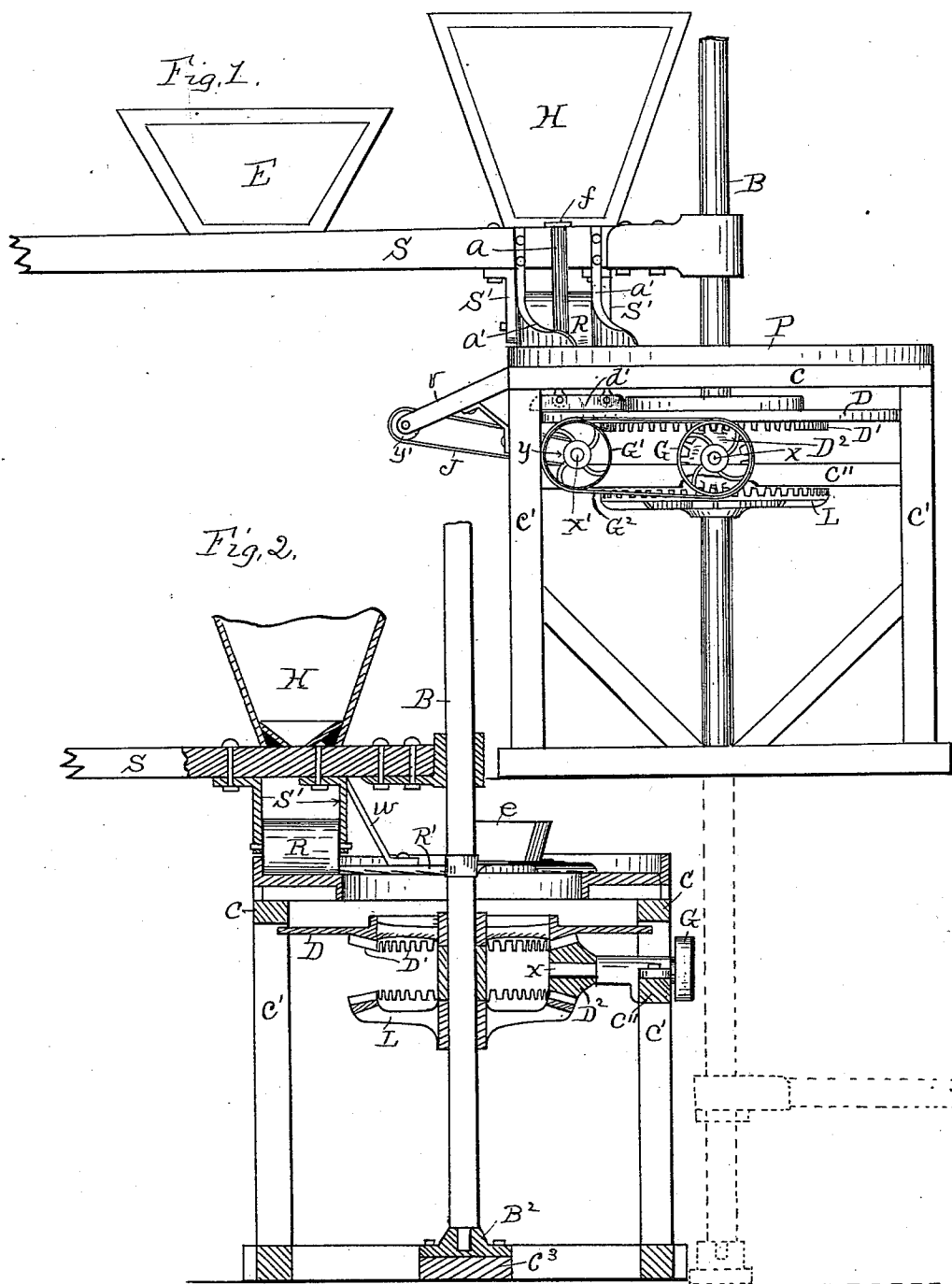
(No Model.)

2 Sheets—Sheet 1.

M. G. MOSHER.
ROLLER CRUSHING MILL.

No. 429,146.

Patented June 3, 1890.



Witnesses
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Fig. 3.

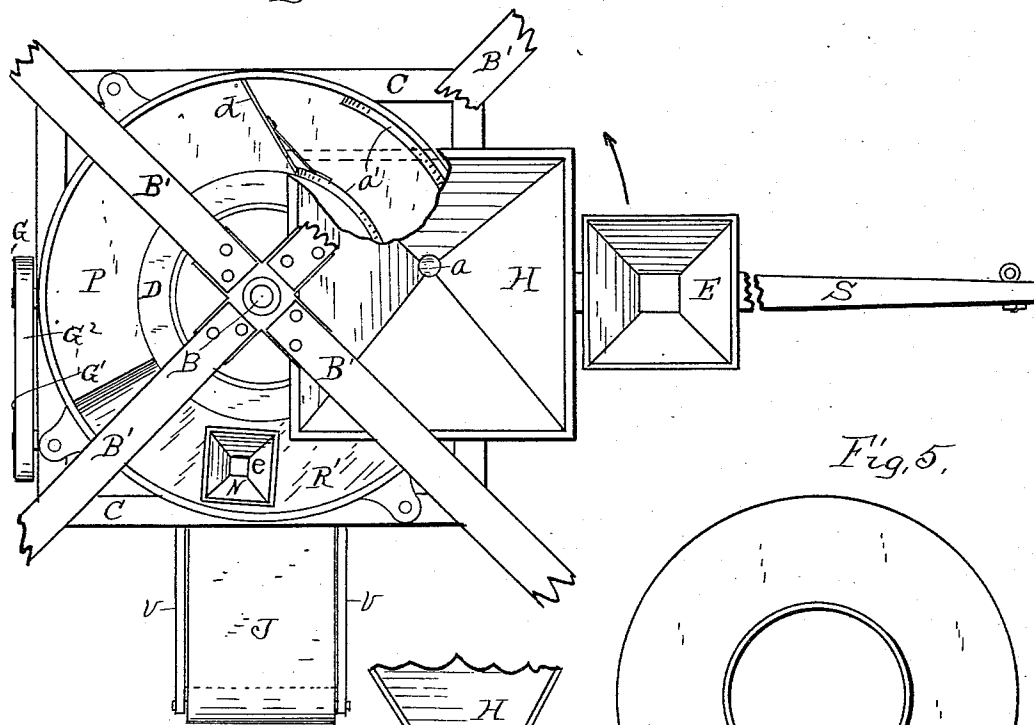


Fig. 4.

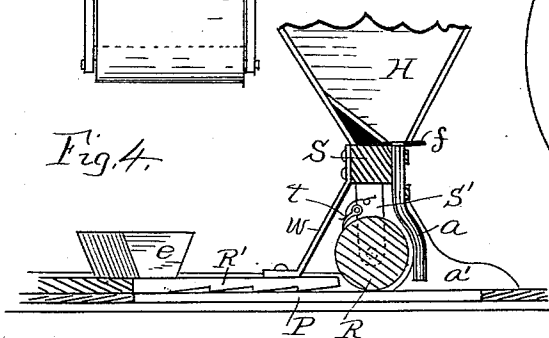
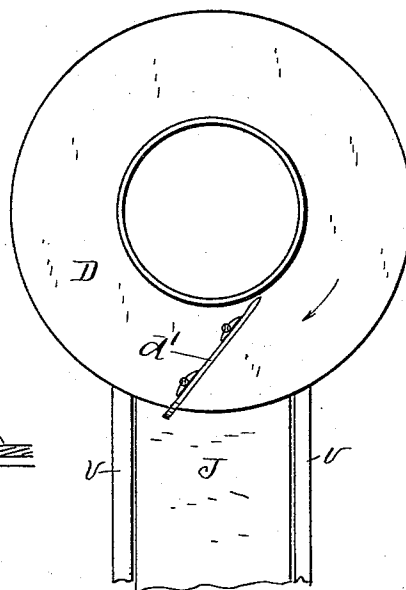


Fig. 5.



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UNITED STATES PATENT OFFICE.

MINER G. MOSHER, OF WICHITA, KANSAS.

ROLLER CRUSHING-MILL.

SPECIFICATION forming part of Letters Patent No. 429,146, dated June 3, 1890.

Application filed December 16, 1889. Serial No. 333,938. (No model.)

To all whom it may concern:

Be it known that I, MINER G. MOSHER, a citizen of the United States of America, residing at Wichita, in the county of Sedgwick and State of Kansas, have invented certain new and useful Improvements in Roller Crushing-Mills, of which the following is a specification, reference being had therein to the accompanying drawings and the letters of reference thereon, forming a part of this specification, in which—

Figure 1 is a side elevation of the mill. Fig. 2 is a central vertical cross-section of the same. Fig. 3 is a top plan view of the same having portions broken away. Fig. 4 is a detail vertical sectional view of a portion of the mill through the crushing-bed, the crushing-roll, the rub-board, the sweep, and the hopper; and Fig. 5 is a detail plan view of the gathering-plate, its scraper, and a portion of the carrier-apron of the mill.

This invention relates to certain improvements in mills for crushing and reducing grain—such as wheat and the like—and it consists in the particular construction and arrangement of parts which are fully set forth and explained in the following specification, and pointed out in the claims.

Referring to the drawings, B' represent cross-beams properly supported by means of a building or otherwise, and are provided with a center-shaft bearing and are high enough from the floor to admit of the travel of a horse and the operation below them.

C' are the corner-posts of the frame of the mill, being four in number, and are properly framed in suitable sills, which form a base-frame, as shown, and C are plates secured to the top of the posts C', and form a square frame upon which the circular crushing-bed P is arranged and secured.

B is an upright shaft stepped in box B², which is centrally arranged at the base of the mill-frame on the cross-beam C⁸ and boxed at its upper end to the cross-beams B'. (See Fig. 1.)

S is a sweep secured in a horizontal position to shaft B above bed P, and has secured thereto, through the medium of the bracket-arm S', the crushing-roll R, arranged to travel upon bed P and in advance of roll R, the fenders A' in the rear of the roll, the rub-

board R', secured through the medium of braces w, which is arranged to drag upon bed P following the roll, and to its upper side above the roll the hopper H, and also a distance out from the hopper the weight-box E. e is also a weight-box fixed upon the rub-board R'.

D is a circular plate similar to but of less diameter than bed P, and is provided with a central hub and arms, similar to a wheel, which hub is sleeved on shaft B and held by means of suitable collars, so that it may rotate in a horizontal manner a short distance below the bed P, and is provided on its lower side with cog-teeth D'.

L is a gear-wheel secured on shaft B below plate D, and of like diameter and facing toothed portion of plate D.

D² is a pinion or gear of less diameter fixed to a short horizontal shaft x, which is boxed to the cross-beam C'' of the mill-frame, which pinion is arranged meshing with the gears L and D' for the purpose of driving shaft x and plate D from gear L when the shaft B is rotated.

G is a belt-pulley fixed on the outer end of shaft x.

x' is a shaft parallel with shaft x, boxed to the mill-frame near one side thereof, and has fixed thereon a roller y, mounted on a shaft radial to the center of the mill, and the shaft-pulley G' on its outer end in line with pulley G and driven from said pulley through the medium of belt G².

V V are arms extending from one side of the mill-frame and support at their other end the roll y', and J is an endless-apron carrier arranged about the roll leading from beneath one side of plate D from the mill.

In operation the grain to be reduced is placed in hopper H. A perforated slide f, of the ordinary pattern, in the bottom of the hopper either checks or regulates the flow of the grain from the hopper to and through the spout A, which leads from the hopper-bottom to the bed P in advance of roll R, and delivers the grain upon the bed P, the fenders A' preventing it from scattering. A horse drawing on the outer end of sweep S will cause roll R to advance upon and crush the grain. To regulate the crushing-pressure, weights are placed in box E. Should any

portion adhere to the roll, the scraper *t* (shown in Fig. 4) will remove it. As the roll *R* advances the crushed grain is engaged by the rub-board *R'* and rolls under the board, and is thereby diffused and the flour loosened from the hull. The degree of pressure of the rub-board upon the crushed grain is regulated by means of weights in box *e*.

d is a scraper-blade fixed to the inner fender *A'*, or some suitable support, to be at an angle across the bed *P* to engage and scrape the crushed and diffused grain from the crushing-bed and discharge it from the inner edge of the bed, where it falls upon the plate *D*, and by reason of the rotary movement of plate *D* it is brought in contact with a similar but stationary scraper-blade *d'*, (see Fig. 5,) where it is scraped from said plate upon the endless-apron carrier *J*, which delivers it from the mill.

I have represented by dotted lines how the shaft *B* may extend below the floor upon which the mill is located and a sweep there-attached, and the mill may then be placed on a floor—such as a barn-floor—the shaft extended into the basement thereof, and the horse or other power for operating the mill travel in the basement, and thereby leave the mill free for approach on all sides.

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

1. The mill described, consisting of the combination, with its supporting-frame, of the sweep *S*, provided with the hopper *H*, the weight-box *E*, the fenders *A'*, the roll *R*, and

rub-board *R'*, of the shaft *B*, supporting said sweep, of the circular crushing-bed *P*, the rotary plate *D*, the scraper-blades *d* *d'*, the endless-apron carrier *J*, and the gearing and pulley mechanism, substantially as and for the purpose specified.

2. In the mill described, the combination, with shaft *B* and the weighted sweep *S* and the stationary crushing-bed *P*, of the crushing-roll *R*, the hopper *H*, the spout *A*, the fenders *A'*, the rub-board *R'*, and the scraper-blade *d*, substantially as and for the purpose set forth.

3. In the mill described, the combination, with the stationary crushing-bed, of the traveling crushing-roll *R*, the scraper *t* thereof, the hopper *H* and its delivery-spout, the fenders *A'*, the weighted rub-board, and the scraper-blade *d*, substantially as set forth.

4. The combination, in the mill described, with the supporting-frame and the upright shaft *B'*, of the gear-wheel *L*, the pinion *D*², and the toothed rotary plate *D*, substantially as and for the purpose set forth.

5. The combination, in the mill described, with the supporting-frame and the upright shaft *B*, of the gear *L*, the pinion *D*², the shafts *x* and *x'*, the pulleys *G* and *G'* thereof, the belt *G*², the rolls *y* and *y'*, and the endless carrier-apron *J*, substantially as and for the purpose set forth.

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