No. 662,636. Patented Nov. 27, 1900.

W. J. BUSSINGER.

GRINDING MILL.

(Application filed Dec. 6, 1899.)

(No Model.)

Fig. 1.

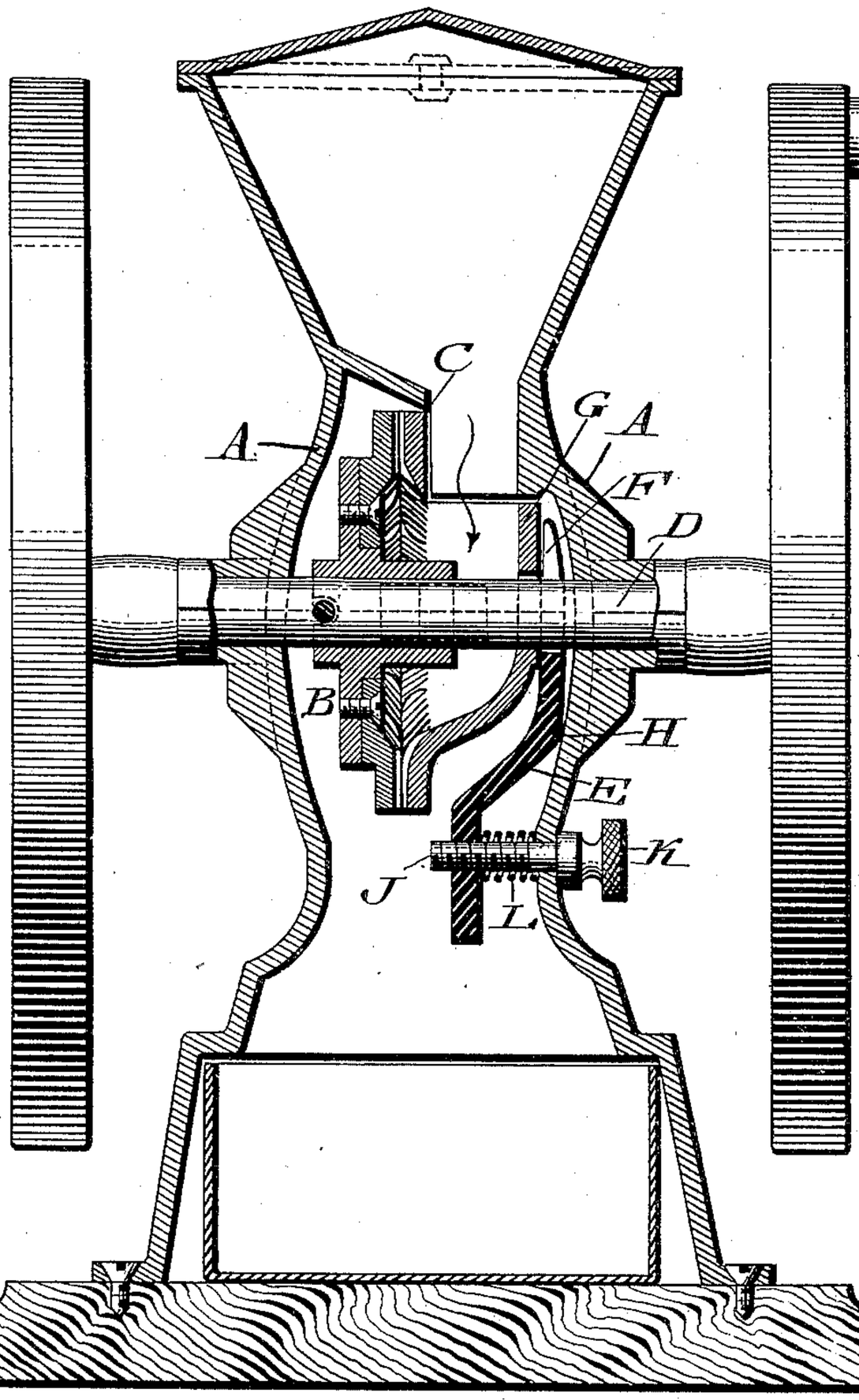


Fig. 4.

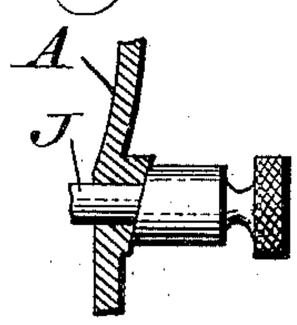


Fig. 5.

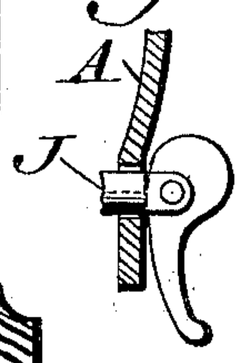


Fig. 3.

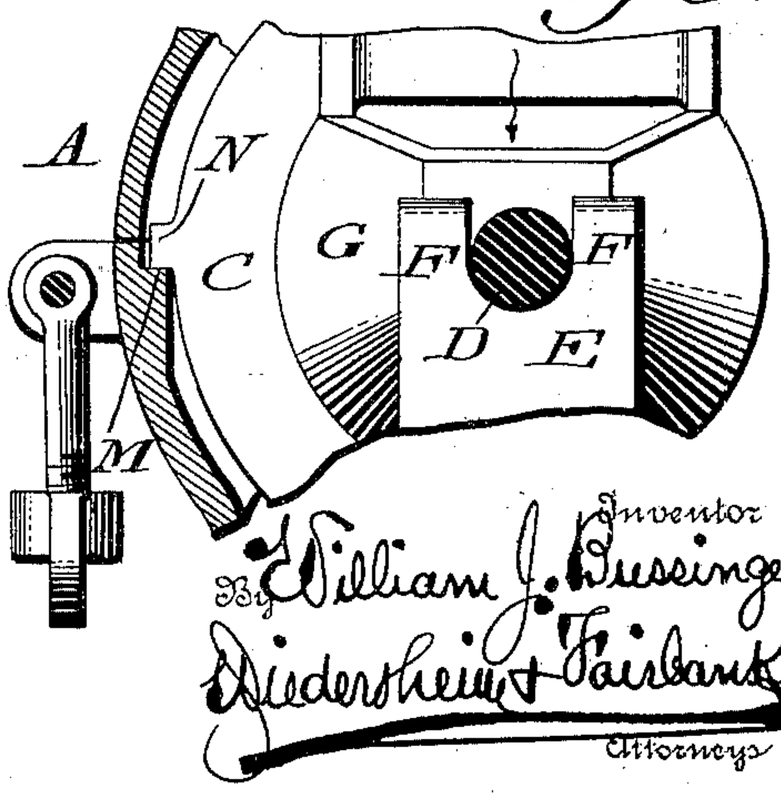
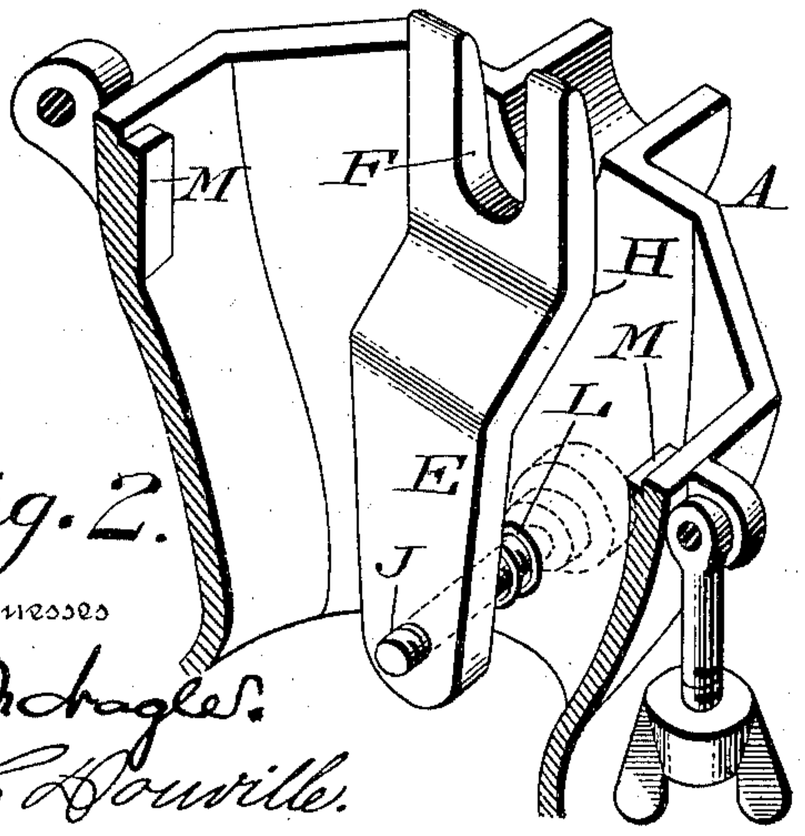


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

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GRINDING-MILL.

SPECIFICATION forming part of Letters Patent No. 662,636, dated November 27, 1900.

Application filed December 6, 1899. Serial No. 739,348. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. BUSSINGER, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Grinding-Mills, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a coffee, spice, or other grinding mill having novel means for adjusting the degree of fineness of the ground material, the same embodying a member within the casing adapted to advance the bur to the runner, and a screw, pin, lever, or the like outside of the casing for operating said member so that the adjustment may be accomplished without disturbing the rotary shaft of the mill or imparting sliding motions thereto and in a simple, effective, and inexpensive manner.

Figure 1 represents a partial vertical section and a partial side elevation of a grinding-mill embodying my invention. Figs. 2 and 3 represent vertical sections of detached portions on enlarged scales. Figs. 4 and 5 represent side elevations of modifications of portion of the mill.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates the casing of a mill adapted for grinding coffee, spice, &c., the same being in general respects of usual construction.

B and C designate, respectively, the runner and bur or bed of the mill, said bed freely receiving the shaft D and said runner being fixed thereon, said bed being movable to and from said runner.

E designates an arm whose upper end has a bifurcation F, which freely embraces the shaft D and contacts with the wall G of the feed-throat of the stationary bur C, said throat and upper portion of said arm occupying a recess in one end of the casing below the hopper, said throat forming a comparatively flush continuation of the interior of the hopper, said arm being deflected in its vertical direction, forming somewhat of an elbow, whose part or exterior angle H bears against the adjacent portion of the casing as a fulcrum for said arm, so that it may turn thereon in the motions of the bifurcation F to and from the bed. Fitted to the lower portion of said arm is the screw J, which is freely mounted in the casing and provided with the head K on the outside of said casing.

Interposed between the arm and casing and in the present case encircling the screw J is the spring L, the same assisting to return the arm to its normal position when the screw is properly rotated and prevent injurious action on the runner and bed in the event of severe lateral pressure on said parts.

On the inner wall of the casing are the shoulders M, on which are seated the tongues N on the periphery of the bed, whereby while the latter rests movably on the shaft D and said shoulders it is prevented from rotating, as will be apparent in Figs. 2 and 3.

It will now be seen that when the screw is operated the upper end of the arm E may press the bed from the side thereof toward the runner, and thus decrease the space between the same, whereby the grinding will be fine. Should, however, coarse grinding be required, the screw is rotated in the opposite direction, whereby the pressure on the bed is released and the latter may separate from the runner, thus increasing the space between said parts, the effect of which is evident.

In Fig. 4 I show a spiral collar on the wall of the casing and a spiral face on the inner end of the head of the screw, said collar and face contacting and a pin which engages with the arm E passing freely through said wall and collar and being connected with said head, whereby by rotating the head the pin may be moved to operate the arm in opposite directions.

In Fig. 5 the arm is shown as connected with a lever having an eccentric head, the latter bearing against the wall of the casing and operating to move the connected pin in and out as required for the adjustment of the bed.

As the bifurcation F freely embraces the shaft D, the arm E is conveniently retained in upright position and prevented from turning on the screw J.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a casing, a horizontal shaft carrying a runner-bur, a stationary bur supported on said shaft and movable to and from the runner-bur, an elbow-lever bifurcated at its upper end to freely embrace said shaft and bear against said stationary bur, and having an external angle resting freely against the inner surface of the casing and forming thereby a fulcrum, and means connected with its lower limb for adjusting and holding in position said lever.

2. The combination of a casing, a horizontal shaft carrying a runner-bur, a stationary bur supported on said shaft and movable to and from the runner-bur, an elbow-lever bifurcated at its upper end to freely embrace said shaft and bear against said stationary bur, and having an external angle resting freely against the inner surface of the casing and forming thereby a fulcrum, an adjustable pin passing through the casing and engaging the lower end of said lever and having a head outside of said casing in convenient reach of the operator and a pressure-spring on said pin interposed between said lever and the casing for holding said lever and pin in position.

3. The combination of a casing formed with a feed-hopper and recessed at one end below said hopper, a horizontal shaft, a runner-bur, a stationary bur sustained on said shaft and movable thereon to and fro and from the runner-bur and formed with a feeding-throat, the walls of which fit within said recess so that the throat forms a flush continuation of the interior of the hopper, a bent lever having its upper end extending up into said recess, freely embracing the shaft and bearing against the outside of the feeding-throat and having the exterior angle of its bend resting against the wall of the casing and supporting an adjusting means engaging the lower limb of the lever and extending through the casing-wall within convenient reach of the operator.

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