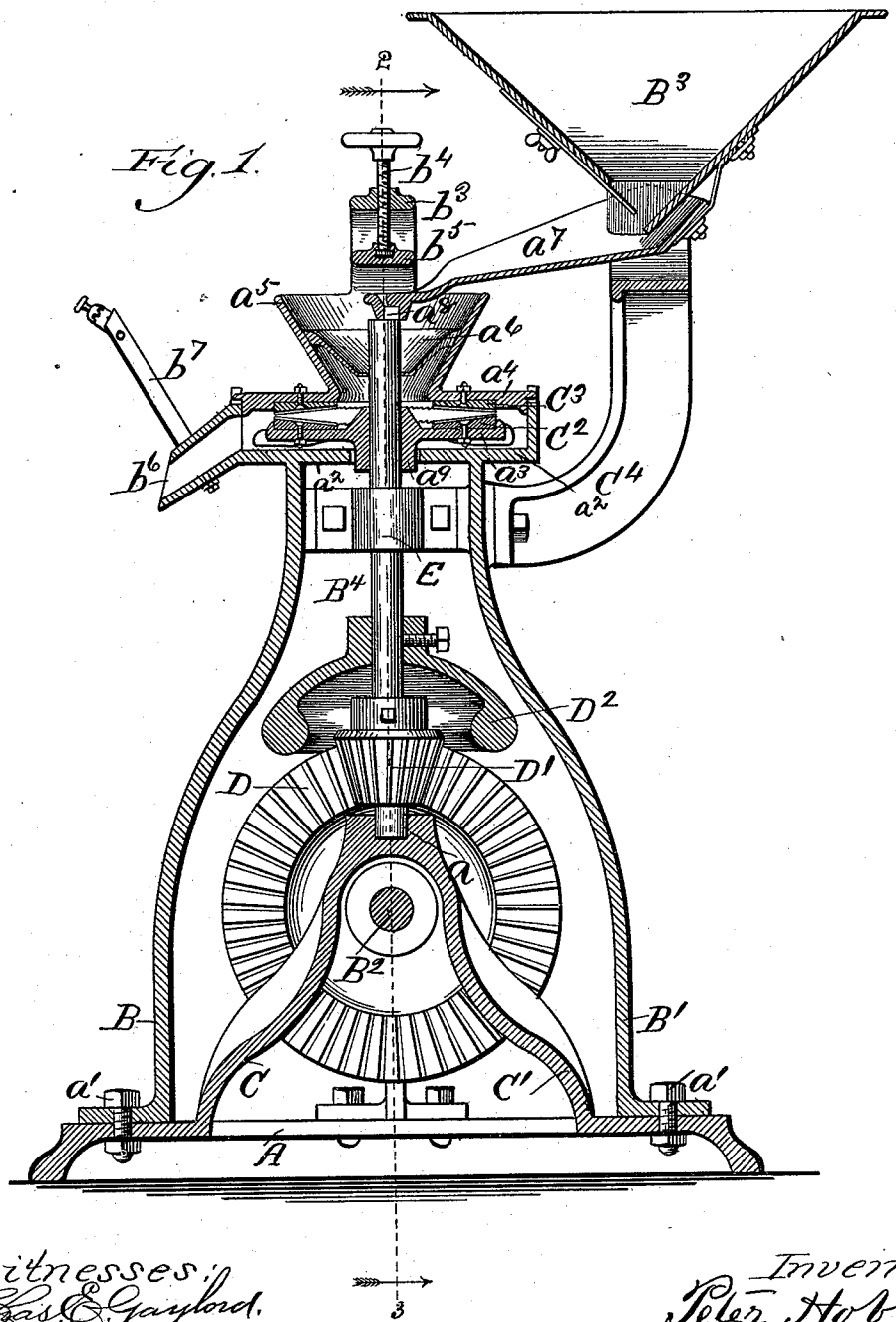
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P. HOBLER.

PORTABLE GRINDING MILL.

No. 417,423. Patented Dec. 17, 1889.

Fig. 1.



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Fig. 2.

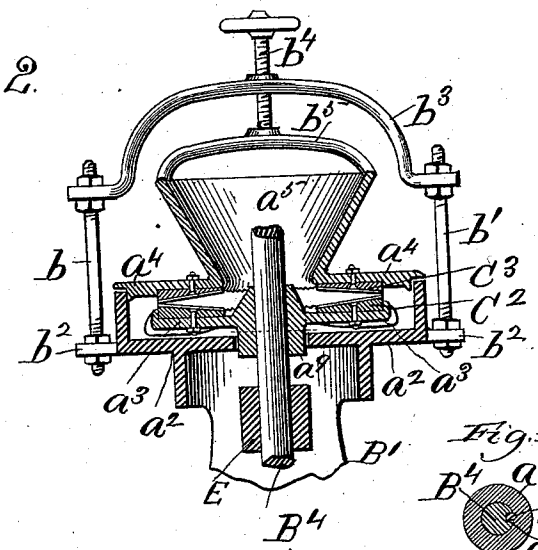
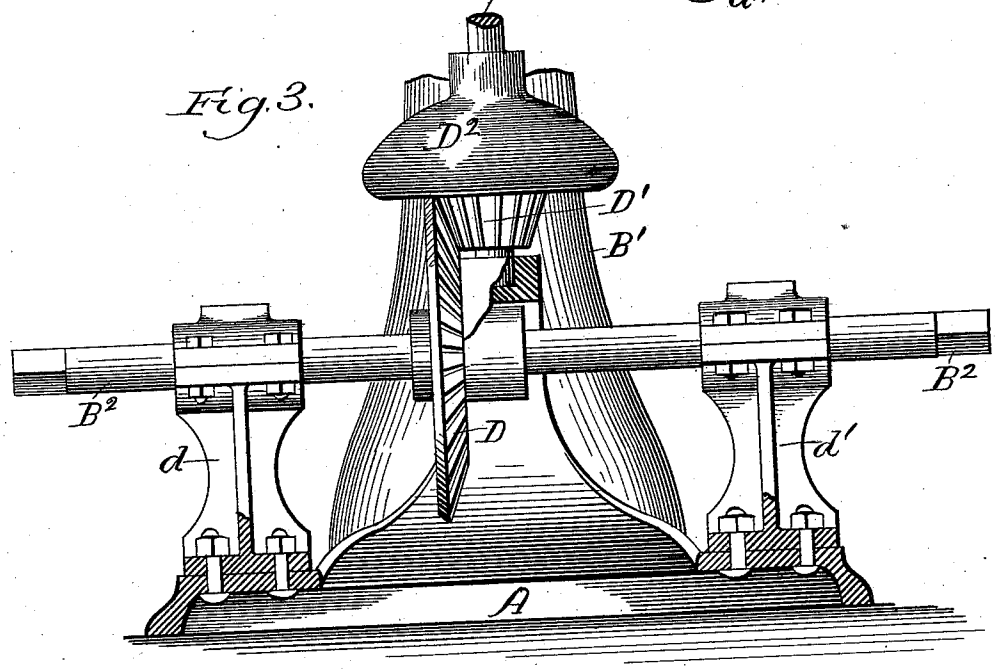


Fig. 4.

Fig. 3.



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UNITED STATES PATENT OFFICE.

PETER HOBLER, OF CHICAGO, ILLINOIS.

PORTABLE GRINDING-MILL.

SPECIFICATION forming part of Letters Patent No. 417,423, dated December 17, 1889.

Application filed October 16, 1886. Serial No. 216,391. (No model.)

To all whom it may concern:

Be it known that I, PETER HOBLER, of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Portable Grinding-Mills, of which the following is a full, clear, and exact description, such as will enable others to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to improvements in that class of portable mills that are more especially designed for the use of farmers in grinding different kinds of grain; and the same consists of certain novel features in the construction, arrangement, and combination of the several parts, as will be hereinafter set forth and claimed.

Figure 1 is a vertical section of a mill embodying my improved features; Fig. 2, a view partly in section and partly in elevation, the parts in section being taken on the line 2, Fig. 1, looking in the direction indicated by the arrow; Fig. 3, a broken side elevation and partial section of the lower part of the mill, the sections being taken on line 3, Fig. 1; Fig. 4, a horizontal section of the mill-spindle B^4 and the hub a^9, showing the manner of connecting the two.

In the drawings, A represents a circular supporting-base; B B′, the supporting-legs; B^2, the driving-shaft, and B^3 the grain-receiving hopper.

The circular base A has the auxiliary legs C C′ formed integral therewith, (see Fig. 1,) which curve inwardly and unite at the top to form the step-box a for the lower bearing end of the vertical shaft or mill-spindle B^4.

The lower ends of the main supporting-legs B B′ are widely extended and secured to the base-plate by the bolts a', the upper ends curving inwardly in the direction of each other and each having one-half of the casing a^2, inclosing the grinding-rings, formed on top of the same. The bed-plate a^3, to which the runner or lower grinding-ring C^2 is secured, is rigidly mounted on the upper part of the vertical shaft or spindle B^4.

The upper grinding-ring C^3 is rigidly secured to the adjustable cap a^4 of the casing a^2, as shown in Figs. 1 and 2. The cap a^4 has a second or auxiliary hopper a^5 formed on the top of the same.

a^6 is a third and smaller hopper placed inside of the hopper a^5, and which receives the grain from the main or receiving hopper through the spout a^7. The necessary vibratory or shaking motion is imparted to the spout a^7 by reason of the inner end engaging loosely with the crank-pin a^8, formed on the upper end of the vertical shaft or mill-spindle.

The hub a^9 of the bed-plate a^3 is provided with the spline a^{10}, which engages with the corresponding groove a^{11} in the upper part of the mill-spindle, whereby the lower grinding-disk may be slipped off from the upper end of said spindle, but rotates therewith.

The lower ends of the vertical bolts $b\,b'$ are inserted in the lugs b^2, projecting from the inclosing-casing a^2, while the upper ends pass through the ends of the arched bridge-bar b^3. The ends of the bolts are threaded and provided with correspondingly-threaded adjusting-nuts. The hand-screw b^4 passes through and has threaded engagement with the center of the arched bar b^3. The lower end of the screw is swiveled in the center of the companion arched bar b^5, spanning the hopper a^5. When rough adjustment is required, the yoke is raised or lowered by means of the bolts $b\,b'$, and when slight adjustment is required it is done by means of the screws b^4.

b^6 is the spout through which the reduced product is discharged, and b^7 a bag-holder of any desired kind attached to the same.

The lower end of the curved bracket-arm C^4 is bolted to one of the main supporting-legs B′, while the upper end supports the receiving-hopper B^3 a little off to one side, as shown in Fig. 1.

The horizontal driving-shaft B^2 is supported in the journal-bearings $d\,d'$, bolted to the circular base A. The bevel gear-wheel D is mounted on the driving-shaft and engages with the corresponding pinion D′, mounted on the lower part of the mill-spindle or vertical shaft. By this means the required motion is transmitted to the grinding mechanism.

The conical bell-shaped hood or cap D^2, mounted on the vertical shaft just above the

pinion D′, serves not only as a balance-wheel, but protects the geared connection also by preventing matter from dropping into the same.

The upper journal-bearing E for the vertical shaft is inserted between and connects the supporting-legs at a point just underneath the casing inclosing the grinding-disks. By this arrangement a compact and durable structure is provided which may be transported with all its principal working parts in position and ready for instant use.

The mill occupies but little space, and is so simple that it may be readily understood and operated by any one.

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

1. In a grinding-mill, the combination of the base A, having auxiliary legs C and C′, curving upwardly and inwardly and uniting to form the step-box a, the main legs B and B′, bolted to the base, the grinding mechanism supported by said legs, the mill-spindle stepped in box a and having a bevel-wheel, and a main shaft having a wheel D, substantially as described.

2. In a grinding-mill, the combination of the casing a^3, the rotating grinding-disk within said casing, a cap a^4, having an arched hopper formed upon the top and the stationary grinding-disk secured to the bottom or under side, the adjusting-bolts secured to the casing a^2, the arch-bar b^3, secured to the bolts, and an adjusting-screw secured to the arch of the hopper and screwed through the arch-bar b^3, substantially as described.

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