

No. 616,614.

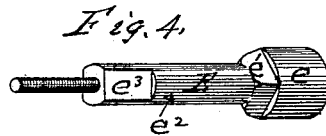
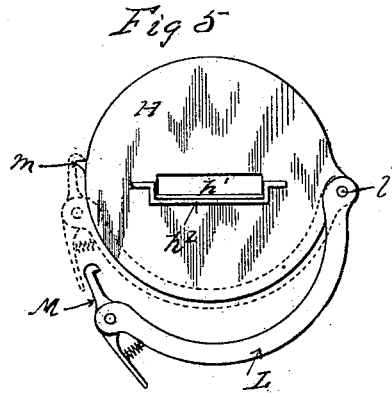
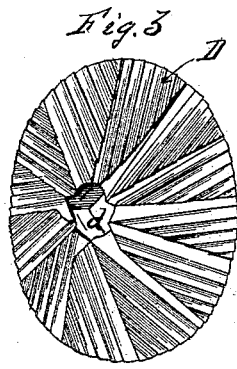
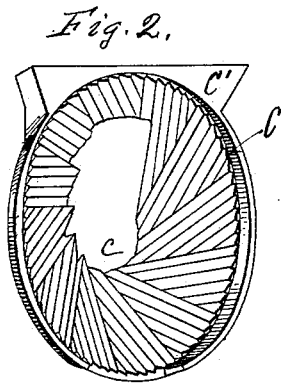
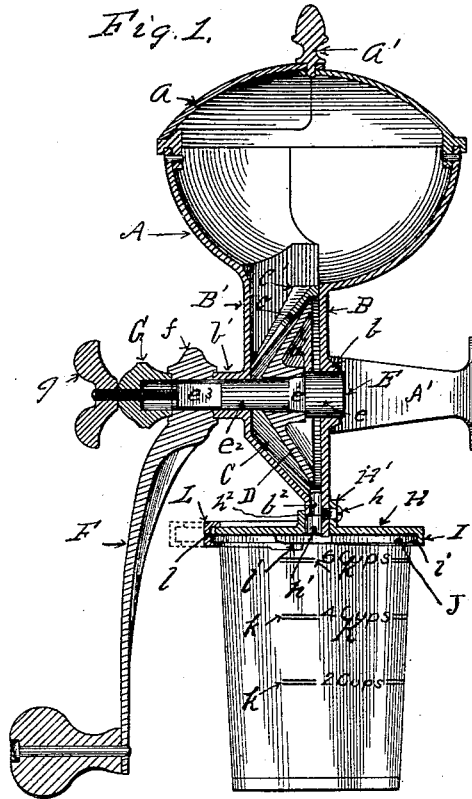
Patented Dec. 27, 1898.

M. GRISWOLD, JR.
COFFEE MILL.

(Application filed Jan. 20, 1897.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:
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UNITED STATES PATENT OFFICE.

MATTHEW GRISWOLD, JR., OF ERIE, PENNSYLVANIA.

COFFEE-MILL.

SPECIFICATION forming part of Letters Patent No. 616,614, dated December 27, 1898.

Application filed January 20, 1897. Serial No. 619,890. (No model.)

To all whom it may concern:

Be it known that I, MATTHEW GRISWOLD, Jr., a citizen of the United States, residing at the city of Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Coffee-Mills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

This invention relates to improvements in coffee-mills; and it consists in the improvements hereinafter set forth and explained, and illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of my improved coffee-mill. Fig. 2 is a perspective view of the stationary conical grinding-shell. Fig. 3 is a like view of the rotating grinding-cone operating within the shell. Fig. 4 is a perspective view of the shaft upon which the grinding-cone is mounted. Fig. 5 is a top or plan view of the ground-coffee receptacle detached from the mill. Fig. 6 is a vertical section similar to Fig. 1 and showing a part of the mill, but drawn to a larger scale.

In the construction of my invention shown in the accompanying drawings, A is the mill-case, provided with arms A', by means whereof it may be attached to any suitable vertical support in the usual manner.

The upper part of the mill-case A is preferably made semiglobular to operate as a receptacle for the coffee to be ground, and is provided with a semicircular cover *a*, adapted to be swung around on a central stud *a'*.

The lower part of the mill-case A consists of a downward projection the back side B of which is vertical and is provided with a shaft-bearing *b* and extends in a direct line downward below the grinding mechanism, hereinafter described. The front side B' thereof extends downward, parallel to B, to a point below the shaft-bearing *b'* therein, from which point it inclines sharply toward the back B, leaving between them at the lower end of the case a small opening *b²* for the discharge of the ground coffee from the grinding appara-

tus. This construction forms a vertical chamber between the sides B and B', the sides of the upper part of which are parallel and one side of the lower part inclined, the side B' forming a support for the back of the conical grinding-shell C, Fig. 2, which has a projection C' on the upper part of the back thereof, and is adapted to be dropped into place from the upper part of the mill-case A. Within this grinding-shell C a rotating grinding-cone D, Fig. 3, operates, supported on a shaft E, Fig. 4, the rear end *e* of which operates in the bearing *b*. On this shaft is a squared portion *e'*, which fits into a square hole *d* in the center of the grinding-cone D, while the round portion *e²* of the shaft E passes through the opening *c* in the grinding-shell C, through which the coffee-beans drop from the hopper into the space between the disks and into the bearing *b'*, by which it is supported. The squared portion *e³* receives a crank F, adapted to rotate the shaft E and the grinding-cone D, mounted thereon, and for adjusting the grinding-cone D toward the grinding-shell C an adjusting-nut G is put upon the screw-threaded end of the shaft E, which contacts with the outer face of the crank-hub *f*, the rear face of which contacts with the end of the bearing *b'*. A lock-nut *g* is also provided for retaining the adjusting-nut *g* in place. It will be observed that this construction provides a bearing for both ends of the shaft E and at the same time enables me to remove the shaft and take out the grinding-shell and grinding-cone at will and replace any of these parts with new ones, if desired, without taking the mill-case apart or otherwise disturbing it.

The handle F and the cone D are practically splined to the shaft E, as they are free to slide longitudinally on it and are constrained to revolve with it.

To the lower end of the back B of the lower part of the mill-case A, I secure a circular disk H by means of a vertical lug H' thereon, through which a screw *h* passes, and adjacent to which there is an opening *h'*, which coincides with the opening *b²* in the lower end of the mill-case. Around one-half of this disk H there is a downwardly-projecting flange I, provided on its lower edge with an inwardly-projecting annular lip *i*, adapted to engage

and hold one-half of an annular flange J on the upper end of a glass cup K, and the remainder of the circumference of the disk H is provided with an arm L, hinged thereto at 5 *l'* and shaped to conform with the periphery of the disk H. This arm L is provided with a groove *l* on the inside face thereof, adapted to close over the edge of the disk H and around and under the flange J on the glass cup K, so that when closed the glass cup K is held firmly up under the disk H, which then operates as 10 a closed case therefor.

For securing the free end of the arm L it is provided with a spring-dog M, adapted to 15 spring over and engage a catch *m* on the periphery of the flange I, so as to hold the arm L firmly in a closed position, but which is adapted to be readily detached when it is desired to remove the glass cup K from the disk 20 H. This glass cup K, I preferably graduate by means of marks *k* thereon, designating the amount of ground coffee ordinarily required to make a given number of cups of coffee, so that the operator is thereby enabled to grind 25 exactly the amount of coffee required to make the number of cups of coffee desired.

Having thus fully described my invention, so as to enable others to construct and use the same, what I claim as new, and desire to secure by Letters Patent of the United States, 30 is—

1. In a coffee-mill, the combination, with a case having bearings of different diameters on its sides, of a removable grinding-disk supported between the said sides and provided 35 with a hole in its upper side for the beans to drop through, a shaft journaled in the said bearings, said shaft being withdrawable through the larger of the said bearings and

provided with a screw-threaded portion at its 40 smaller end, a revoluble grinding-disk operatively connected to the larger part of the said shaft between the sides of the case, a handle operatively connected to the smaller part of the said shaft outside the case, and a nut en- 45 gaging with the screw-threaded portion of the said shaft and operating to adjust the distance between the said grinding-disks and to secure the said handle, substantially as set forth. 50

2. In a coffee-mill, the combination, with a case having sides B B' provided respectively with bearings *b b'*, an inclined portion at the lower part of the side B' and an outlet-opening at its bottom; of a stationary grinding- 55 disk dropped between the said sides and resting on the said inclined portion and provided with a hole in its upper side for the coffee-beans to drop through; a shaft provided with journals of different diameters journaled in 60 the bearings *b b'*, said shaft being withdrawable through the larger bearing *b* and having as crew-threaded portion at its smaller end; a revoluble grinding-disk operatively connected to the larger part of the said shaft be- 65 tween the said sides of the case; a handle operatively connected to the smaller part of the said shaft outside the case, and nuts engaging with the screw-threaded portion of the said shaft and operating to adjust the dis- 70 tance between the grinding-disks and to secure the said handle, substantially as set forth.

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

MATTHEW GRISWOLD, JR.

Witnesses:

H. J. CURTZE,
CHARLES A. MERTENS.