ANTOINE LEPAGE.

Improvement in Coffee Mills.

No. 120,287. Patented Oct. 24, 1871.

Fig. 1

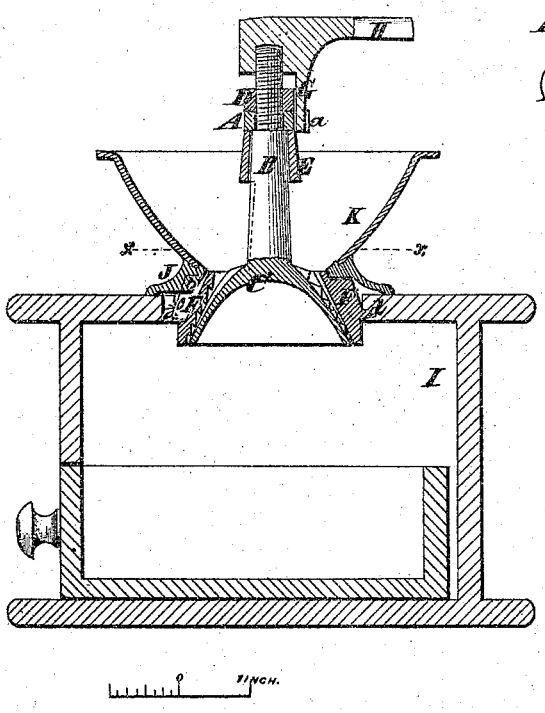


Fig. 9

Fig. 2

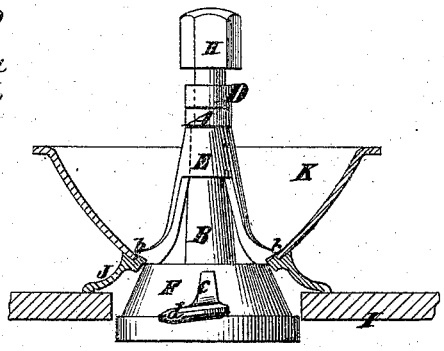


Fig. 3

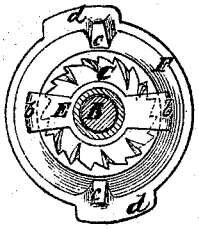


Fig. 5

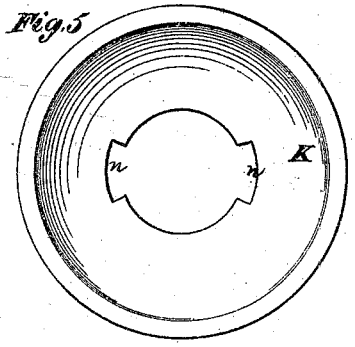


Fig. 4

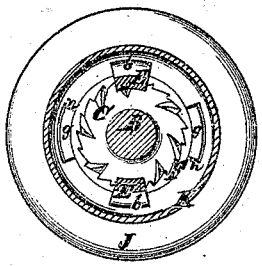


Fig. 6

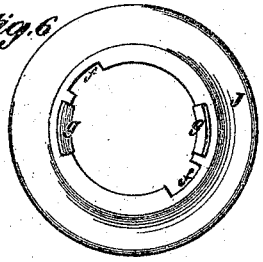


Fig. 8.

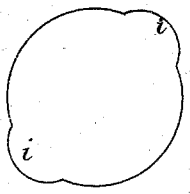
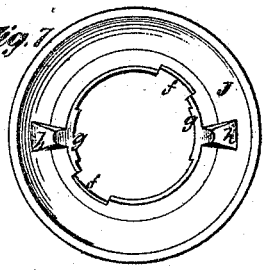


Fig. 7



Witnesses.
Fred Haynes
R. Rabaud

Antoine Lepage

UNITED STATES PATENT OFFICE.

ANTOINE LEPAGE, OF WOODHAVEN, NEW YORK.

IMPROVEMENT IN COFFEE-MILLS.

Specification forming part of Letters Patent No. 120,287, dated October 24, 1871.

To all whom it may concern:

Be it known that I, ANTOINE LEPAGE, of Woodhaven, in the county of Queens and State of New York, have invented certain new and useful Improvements in Hand Coffee-Mills; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing forming a part of this specification.

The object of this invention is to afford greater convenience for a delicate adjustment of the cones of a coffee-mill, to enable it to grind at any desired degree of fineness. The invention consists, first, in a loose notched collar, which is arranged on the spindle under the nut and between it and the top of the spindle-standard, so as to form the vertical bearing of the spindle, and which is locked to the spindle by a horn projecting from the driving-crank so as to turn with it, and thereby relieve the nut from all friction and all consequent liability to accidental disturbance, while enabling it to be adjusted with extreme delicacy. It also consists in a novel construction of the outer female cone, the base-ring and hopper, whereby the mill can be readily and firmly secured to boxes or boards of different thicknesses without inserting any of the parts from beneath and without the use of screw.

In the accompanying drawing, Figure 1 is a central vertical section of the mill and its box. Fig. 2 is a similar section of the mill alone at right angles to Fig. 1. Fig. 3 is a sectional plan of the grinding-cones detached. Fig. 4 is a horizontal section of the mill taken at the dotted line *x x* in Fig. 1. Fig. 5 is a plan of the hopper. Fig. 6 is a plan of the base-ring. Fig. 7 is an inverted plan of the same; Fig. 8, a diagram showing the shape of hole in the box, and Fig. 9 is a detached view of the collar.

Similar letters of reference indicate corresponding parts in all the figures.

A is the loose collar, the interior of which is large enough for the screw on the spindle B of the male cone C to pass loosely through it. This collar is arranged on the spindle B between the adjusting-nut D and the top of the spindle-standard E, which is cast with or rigidly secured to the female cone F. This collar has formed on its periphery two projecting jaws or lugs, *a a*, into the recess or notch between which there projects a horn, G, that is provided on the crank H, and by means of which the collar is locked to the crank and the spindle in such manner as to be compelled to turn with them without interfering with a horizontal adjustment of the spindle. The lower portions *b b* of the spindle-standard E are made to project out from the upper part of the exterior of the female cone F, as shown more especially in Fig. 2, and on opposite sides of the exterior of said cone are two projecting stops, *c c*, and at the bases of these stops are lugs *d d*, which are slightly inclined in order to work in screw-threads or spiral grooves in a hole in the top of the wooden box I. These grooves may be cut or indented into the wood by the lugs *d d* themselves, or cut by a special instrument. J is the base-ring, which has an inner flange, *e*, on which the lower edge of the hopper K rests, said flange having notches or recesses *f f* formed in its edge, and near these notches projections *g g*. Formed on opposite sides of the interior of the base-ring in line with the projections *g g*, are stops *h h*. The hopper K is of the ordinary form and has two notches, *n n*, in its lower edge, of a size to fit over the projections *g g* on the base-ring. The box I is of the usual make and has a hole in it for the shape shown in Fig. 8, and recesses *i i* being for the passage of the lugs *d d* on the female cone F. To put the several parts of the mill together and secure the mill to its box, the female cone F is first placed over the male cone; then the loose collar A and nut D are put on the spindle of the latter. The crank is then screwed onto the end thereof, with its horn G in the notch in the said collar. The base-ring J is now slipped over the female cone F, its notched portions *f f* passing over the said projecting portions *b b* of the spindle-standard E. The ring is then turned to bring the latter over the projections *g g* on the base-ring. The hopper is now placed over the base-ring with its notches *n n* fitting the said projections *g g* on the base-ring J, so that they are locked to turn together and the mill fitted to the hole in the box with the lugs *d d* in the recesses *i i* therein. The hopper is now taken hold of and turned, thereby bringing the solid portion of its edge under the projecting portions *b b* of the spindle-standard E, and thereby securing it and also bringing the stops *h h* on the interior of the base-ring J into contact with those *c c* on the female cone F, and thereby locking them together; and the continued turning of the hopper forces or screws the lugs

d d into spiral grooves in the periphery of the hole in the box, and the mill is thereby firmly secured to it. To adjust the cones relatively to each other the adjusting-nut D is turned on the spindle B and thereby moves the loose collar A vertically thereon; but does not turn it, as it is prevented by the horn G fitting in its notch. As the nut has a bearing that moves with it, there is no need to lock it separately, as, being free from sliding friction, it will remain in any position.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The notched collar A arranged on the spindle B between the spindle-standard E and the adjusting-nut D, for which it forms the bearing, in combination with the rigid horn G on the crank H, substantially as and for the purpose herein set forth.

2. The combination of the notches *n n* in the hopper, the projections *g g* on the base-ring J, the projecting portions of the spindle-standard E, the stops *h h* on said ring and those on the female cone, and the lugs *d d* on the latter, substantially as and for the purpose described.

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Witnesses:

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R. E. RABEAU.

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