O. J. RANGE.

COFFEE-MILL.

No. 175,753. Patented April 4, 1876.

fig. 1

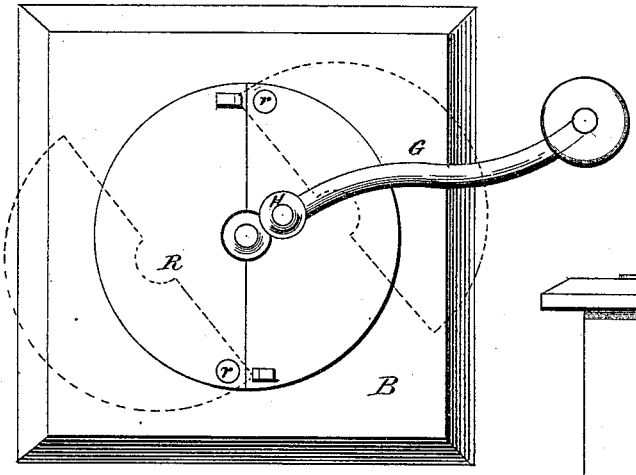
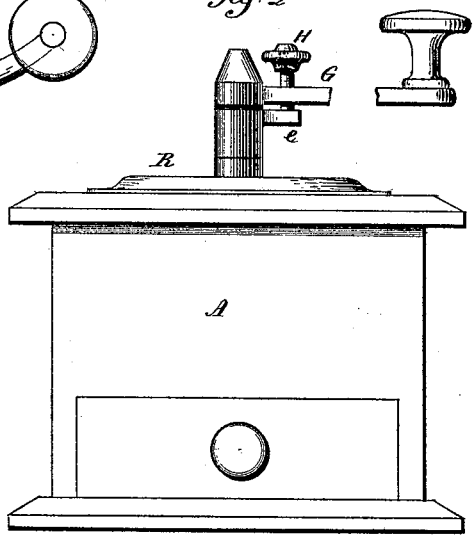


fig. 2



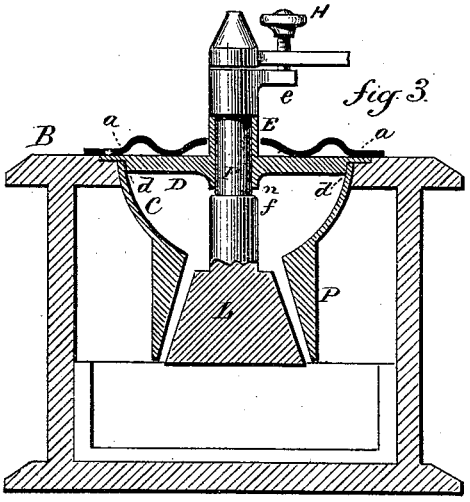
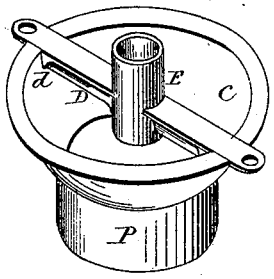


fig. 3

fig. 4



Witnesses.

J. H. Shumway

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UNITED STATES PATENT OFFICE.

OTIS J. RANGE, OF MERIDEN, CONNECTICUT, ASSIGNOR TO CHARLES PARKER, OF SAME PLACE.

IMPROVEMENT IN COFFEE-MILLS.

Specification forming part of Letters Patent No. **175,753**, dated April 4, 1876; application filed March 9, 1876.

To all whom it may concern:

Be it known that I, OTIS J. RANGE, of Meriden, in the county of New Haven and State of Connecticut, have invented a new Improvement in Coffee-Mills; and I do hereby declare the following, when taken in connection with the accompanying drawings, and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent in—

Figure 1, plan view; Fig. 2, front view; Fig. 3, vertical central section; Fig. 4, perspective view of the top of the hopper and supporting bar.

This invention relates to an improvement in that class of coffee-mills known as "box-mills"—that is to say, mills in which the runner-spindle is mounted vertically over a box to receive the product of grinding.

In the usual construction of this class of mills the hopper has been arranged above the top of the box.

The object of this invention is to sink the hopper flush with the top of the box, whereby it may easily be fitted with a cover to close the top of the hopper; and it consists, first, in a central bar across the top of the hopper, constructed with a bearing to support the spindle, and fitted so that, by placing it in position, it centrally locates the spindle; also in the construction of said bar, so that in the adjustment of the runner it cannot be brought into contact with the shell.

A is the box of usual form, of which B is the top. C is the hopper, constructed with a flange, and set into the top flush with its surface.

On diametrically opposite sides of the hopper a notch, *a*, is formed at the upper edge, and into these notches a bar, D, is set. This bar D is constructed with a shoulder, *d*, at each end, distant from each other the internal diameter of the hopper, or so as to take a bearing to locate the bar longitudinally, while the extension of the bar into the notches of the hopper will locate it transversely. In the center of this bar a bearing, E, is formed for the runner-spindle F. The construction of the end of the bar and the seats for it in the hopper therefore positively locate the bearing for the spindle in its necessary central position, and forms the only support necessary for the spindle, thereby dispensing with the usual bearing below the runner, being suspended entirely by the bearing in the bar.

The crank G is applied to the runner-spindle in the usual manner. Beneath the crank a lug, *e*, projects radially from the shaft, loose axially, but so as to revolve with the shaft, and through the crank an adjusting-screw, H, is arranged to bear upon the lug *e*; hence, by turning the screw H, the runner L is raised or lowered accordingly, and so as to set it nearer to or farther from the shell P for finer or coarser grinding.

To prevent contact of the runner with the shell, a shoulder, *f*, is formed on the runner-spindle in such relative position to a corresponding part, *n*, of the bearing E, that the said shoulder *f* will strike at *n* before the runner will come in contact with the shell. This construction enables the arrangement of a divided cover, R, each pivoted to the box at *r* so as to be turned away, as indicated in broken lines, Fig. 1.

I claim—

1. The combination of the hopper C, constructed with seats *a* diametrically opposite each other, the bar D with shoulders *d*, the bearing E in the said bar to locate and support the runner-spindle, substantially as described.

2. The combination of the hopper and shell of a coffee-mill, the bar D, constructed with the bearing E for the support of the runner-spindle, the runner-spindle F, constructed with a shoulder, *f*, a corresponding bearing, *n*, on the bar, and the adjusting-screw H, with the lug *e*, substantially as and for the purpose described.

O. J. RANGE.

Witnesses:
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