C. W. PIERCE.

COFFEE AND SPICE MILL.

No. 37,358. Patented Jan. 6, 1863.

Fig. 1.

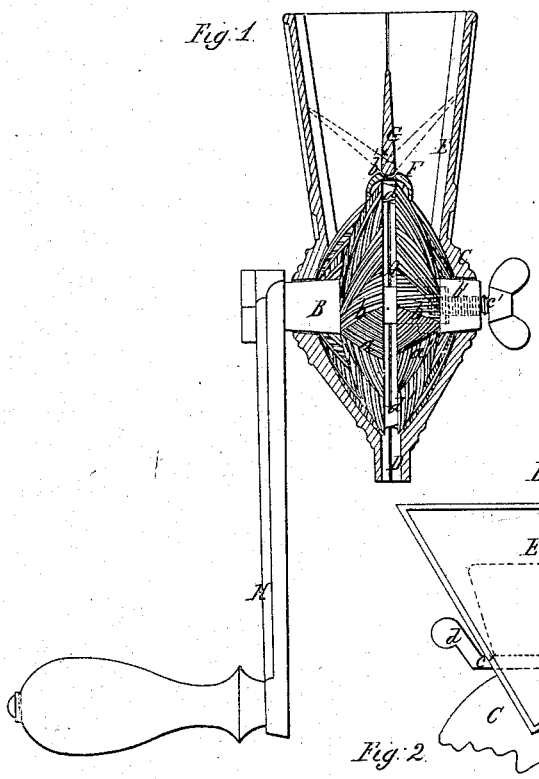


Fig. 3.

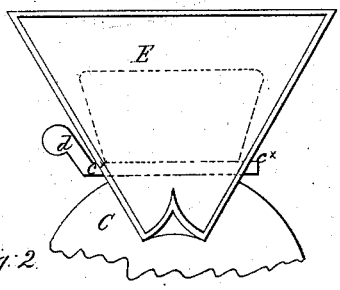
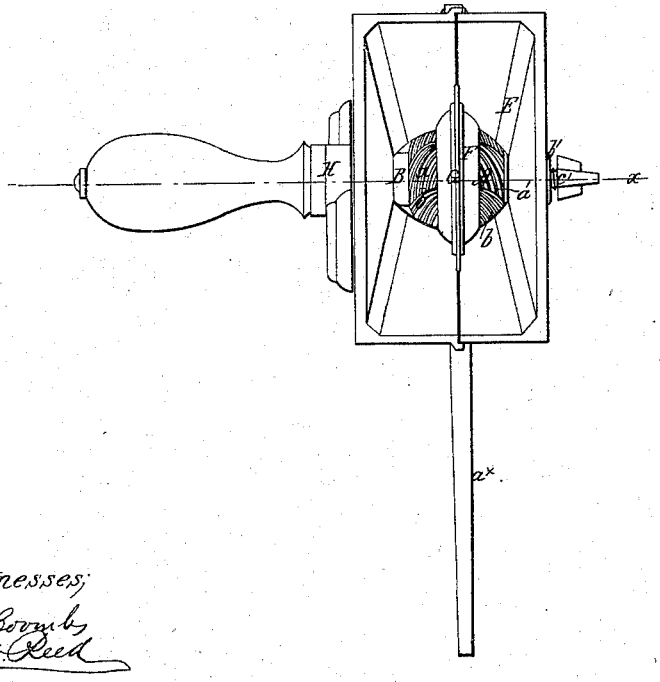


Fig. 2.



Witnesses;

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UNITED STATES PATENT OFFICE.

CHARLES W. PIERCE, OF OAKHILL, NEW YORK.

IMPROVEMENT IN COFFEE AND SPICE MILLS.

Specification forming part of Letters Patent No. **37,358**, dated January 6, 1863.

To all whom it may concern:

Be it known that I, CHARLES W. PIERCE, of Oak Hill, in the county of Greene and State of New York, have invented a new and useful Improvement in Mills for Grinding Coffee, Spices, and like substances; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical section of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a plan or top view of the same; Fig. 3, a side view of a portion of the same.

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

This invention relates to an improvement in hand-mills—such as are used for domestic purposes—for grinding coffee, spices, &c.

The invention consists in having the rotary grinder provided with two grinding-surfaces—one at each side—one grinding-surface having finer cutting-edges than the other, and using in connection with the grinder thus constructed an adjustable plate or valve, arranged in such a manner that it may be so adjusted to admit of either side or the grinder being used, as desired, or both used simultaneously.

The object of the invention is to obtain a mill of the kind specified, which will admit of either coffee or spice being properly ground in it, or any one article being ground with different degrees of fineness, as may be required, and thereby render the use or purchase of two different mills unnecessary, by combining in a simple and economical manner two different mills in one.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents the grinder of the mill, which is composed of two convex sides, *a a'*, each of which is provided with cutting-edges *b*, similar to the grinders of the ordinary mills of the kind in present use. The cutting-edges of the side *a*, however, are finer or nearer together than those of *a'*, in order that it may be suitable for grinding substances finer than *a'*, the side *a* being made like the grinder of a spice-mill, while the side *a'* is made like the grinder of a coffee-mill. This grinder is placed on a shaft, B, the bearings of which are in a case, C, the inner surfaces of the latter being concave, so as to correspond inversely, or nearly so, with the sides *a a'* of the grinder.

The grinder is made of two distinct parts, one of which, *a*, may be permanently attached to shaft B, the latter passing loosely through the other part, *a'*, and fitting in a collar, *b'*, through which and into the end of shaft B a screw, *c'*, passes. By turning this screw *c'* the parts *a a'* may be adjusted nearer to or farther from the sides of the case C, in order to regulate in a measure the degree of fineness of the substances to be ground. The two parts *a a'* have ears or lugs *d'* at their inner sides, by which *a* is made to turn *a'*. The inner sides of the case C are corrugated or provided with cutting-edges to form grinding-surfaces. The lower end of the case C is provided with a discharge-spout, D, and the upper part has a hopper, E, connected with it. In the lower part of the hopper there is placed a cross-bar, F, which is directly over the center of the grinder, and G is a plate or valve, which is placed directly over the cross-bar F, the lower edge of the plate or valve fitting in a groove, $b^{\times}$, in the upper surface of the cross-bar. The plate or valve, at its lower part, is provided at each side with a journal, $e^{\times}$, the bearings of which are in the sides of the hopper E. One of these bearings extends through the side of the hopper and has a thumb-piece, *d*, attached to it, as shown in Fig. 3. The plate or valve G is of such dimensions that when turned either to the right or left it will serve as a cut-off, and prevent the substance in the hopper from passing down to the side of the grinder, over which it is adjusted, and by turning the plate or valve in a vertical position the substance in the hopper will pass down at both sides of the grinder. In Fig. 1 the plate or valve is shown in a vertical position in blue tint, and shown adjusted to either side of the hopper in red outline. The shaft B of the grinder is turned by means of a crank, H. The journals $c^{\times}$ $c^{\times}$ of the plate or valve G are fitted sufficiently tight in the sides of the hopper E to retain or hold the plate or valve in a vertical position when thus adjusted. Thus it will be seen that by this simple arrangement the mill may be used as either a spice or coffee mill, or either one of the above substances may be ground coarse or fine, ac-

cording to which side of the grinder is used, or when a certain degree of fineness is not necessary both sides of the grinder may be used simultaneously. I would remark that the case C is provided with a projecting plate, a^{x}, through which screws or bolts pass to secure the mill to any suitable fixture.

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

The adjustable plate or valve G, placed in the hopper E, in combination with the double rotary grinder A placed within the case C, substantially as and for the purpose herein set forth.

CHARLES W. PIERCE.

Witnesses:
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