C. R. EDWARDS.

Coffee Mill.

No. 53,129. Patented March 13, 1866.

Fig. 1

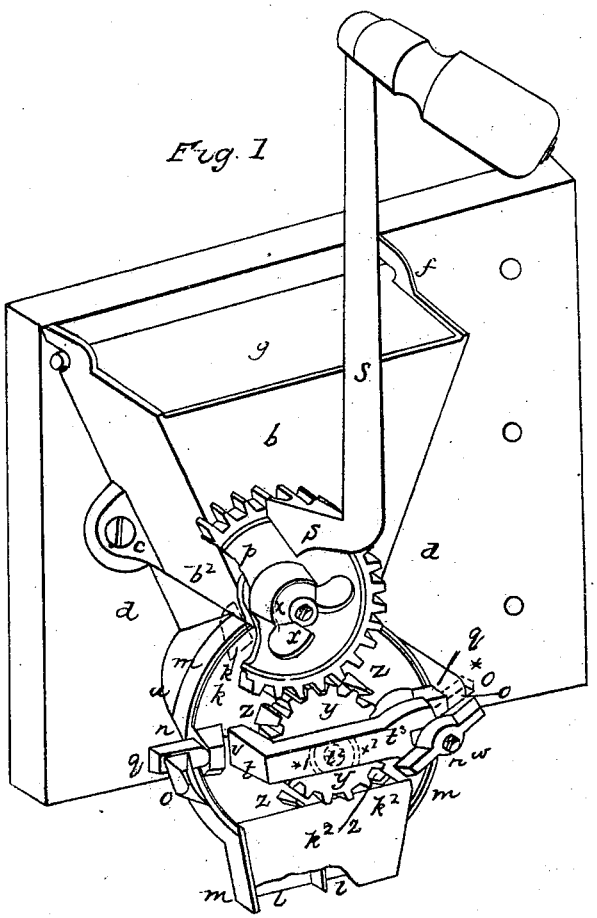
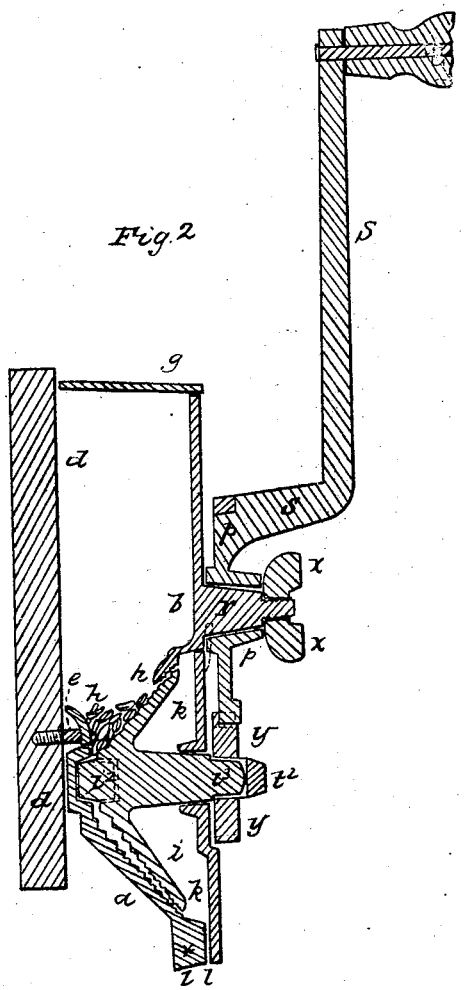


Fig. 2



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES R. EDWARDS, OF NIAGARA CITY, NEW YORK.

IMPROVEMENT IN COFFEE-MILLS.

Specification forming part of Letters Patent No. **53,129**, dated March 13, 1866.

To all whom it may concern:

Be it known that I, CHARLES R. EDWARDS, of the village of Niagara City, (Suspension-Bridge Post-Office,) in the county of Niagara, in the State of New York, have invented a new and Improved Coffee and Spice Mill; and I do hereby declare that the following is a full and clear description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view, with a part of the cog-wheel *p p* represented broken away, to show the hopper at b^2. Also, a portion of the cap-piece is broken away at *l l* to show the delivery. Fig. 2 is a view of the mill as if on a line dividing it from top to bottom in the middle from front to back.

Like letters in either figure refer to like portions named.

At letter *a*, Figs. 1 and 2, is shown the grinding-shell, which is cast in one piece with the hopper *b* b^2, Fig. 1, the sides and front of the hopper being cast of iron, and the back left open to be formed by whatever the mill shall be fastened to. On either side of the hopper is cast an ear, as at *c*, Fig. 1, with screw-holes therein for fastening the mill to any wood surface, as the board *d;* also, a screw-hole for same purpose, cast at *e*, Fig. 2. A notch on either side of the hopper, at *f f*, is cast, and the lid *g* of the hopper being cast with tongues to fit and turn therein, as shown at *f f*, Fig. 1, a hinge is thus formed when the mill is fastened to the board *d*, Fig. 1. That part of the hopper shown below the line at b^2, Fig. 1, is made to draw, in molding, the same way on the inside and outside, hence made to grow thinner toward its back edge, while that part shown above the line b^2, Fig. 1, including the front of the ear *c*, draws the same way with the front of the hopper, but the whole hopper inside must, of course, draw the same way that it does below the line b^2. The right-hand side of the hopper (not seen in the drawings) is formed in the same way.

At *h h*, Fig. 2, is shown how the entrance from the hopper to the grinders is formed. At *i i*, Fig. 2, is shown the burr, cast with the shaft i^2 and i^3. At *j* is shown a recess or hole, in which the end of the burr-shaft at i^2, Fig. 2, revolves, while the opposite end revolves in a hole in the face-pieee *k k*, Figs. 1 and 2. Instead of the hole at *j*, Fig. 2, a short axle—say three-eighths of an inch long—may be cast there to enter a hole like *j*, Fig. 2, cast in the end of the burr at i^2, Fig. 2.

At *m m*, Figs. 1 and 2, is shown how a flange is cast around the grinding-shell to give room for the ground coffee to come out from between the grinders and allow it to fall through the delivery *l l*, Figs. 1 and 2. The flange may be made drawing toward tis front edge on its outer as well as inner side, except that part under the hooks *o o*, Fig. 1, which must draw toward the back of the mill.

At *k* k^2 k^2 is shown the face-piece, made to fit within the flange *m m*, Figs. 1 and 2, except that part covering the delivery *l l*, Figs. 1 and 2, where it fits over front of the edges of the flange. The lower part of the face-piece, k^2 k^2, Figs. 1 and 2, projects front to give room for the delivery.

At *q q*, Fig. 1, are tongues, cast on the face, so as to turn under the hooks *o o*, Fig. 1. The flange, as at *n n*, Fig. 1, is cut down about the thickness of the face-piece, so that the tongues, cast flush with the inner surface of the face, may turn under the hooks *o o*.

At *t* t^3 is a bar, hooked in a hole cast in the face-piece, as shown at *v*, Fig. 1. The bar is formed so that it allows the cog-wheel *y*, Figs. 1 and 2, to work between the bar and the face.

At *w* is a thumb-nut, screwed on a threaded wire piece cast in the face-piece before the nut *w*, Fig. 1, is screwed on. The end of the bar *t* t^3, having a forked opening cast in it, is slipped astride the thread-piece. The nut then put on will press the bar more or less close to the face-piece. The bar at t^2 is thus pressed against the burr-shaft i^3, Fig. 2, thereby regulating to grind coarse or fine. The opposite end of the burr-shaft, at i^2, Fig. 2, will touch and turn against the part *j* before allowing the grinders to come into too close contact. Thus the teeth of the grinders are guarded at the center of the burr or shaft, giving much less friction than if the guard rub on a wider surface. The teeth may be made like those long in use on the conical grinders, or of any other form.

The cog-wheel *y*, Figs. 1 and 2, is fitted with a square hole on the burr-shaft at i^3, Fig. 2, but prevented by a shoulder on the shaft from working too near the face-piece; and may be prevented from interfering with the bar *t* by two

small projections on the inner side of the bar near dotted lines *1 *1, Fig. 1. The burr-shaft i^3 is left easily removable from the said cog-wheel.

At z z, Fig. 1, are cast on the face flat projections to prevent the wheel y from dropping out when the burr is removed for cleaning. At r, Fig. 2, is shown how an axle may be cast on the front of the mill on which to revolve the cog-wheel p p, Figs. 1 and 2, with a handle, s s, Figs. 1 and 2, cast on said wheel. At x x, Figs. 1 and 2, is a thumb-nut screwed onto a threaded wire-piece cast in the axle r.

At dotted lines *k *k, Figs. 1 and 2, is shown how a tongue may be there cast on the face k to prevent the face from turning back and unhooking at o o, Fig. 1. The face being put on and turned to hook before the wheel p p is put on, the shoulder at *p, Fig. 2, afterward fills up the space between the tongue *k and the axle r.

The mill is taken apart for cleaning by removing the thumb-nut and cog-wheel from the said axle r, and then turning the face-piece k from the hook-fastenings o o, Fig. 1, and this without removing the nut w, or separating the cog-wheel y, or regulating-bar t from said face-piece.

Without essentially changing the construction or the object of construction the axle r, Fig. 2, if care is taken to cast a well-fitted face-piece, may be cast on the upper part of the face-piece, or on the tongue of the face at *k, Figs. 1 and 2, and the face prevented from turning and unhooking by extending the upper fork or prong of the bar at t^3, Fig. 1, so that when the nut w, Fig. 1, is put on, then the said prong t^3 will be over the hook-projection, in a manner shown by dotted lines at *o, Fig. 1, when the face cannot be turned back or unhooked, but may be unhooked and taken apart from the mill by simply turning the nut w so as to let the prong turn back over the hook-projection. In either case the mill will be taken apart by turning one thumb-nut.

At *, Figs. 1 and 2, is shown how a check-piece may be cast in the delivery l to prevent the revolving grinder from any scattering in what is delivered. Thus a durable and cheaply-made geared mill for grinding coffee, spices, and many other things is made to grind fast and work easily by reason of little friction, while by means of one thumb-nut the mill may be almost instantly taken apart to be cleaned, or to empty the hopper or remove any obstruction, and be again easily put together without other means than the hand.

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

1. The face-piece k, and regulating-bar t, and kooks o o, arranged and constructed substantially in the manner and for the purposes set forth.

2. The guarding of the grinding-surfaces from too close contact with each other, substantially as and for the purposes set forth.

3. So combining the cog-wheel y and regulating-bar t with the face-piece k that, for the purpose of cleaning the mill, these parts may be removed together and replaced in the mill without becoming separated

4. The axle r, cog-wheel p, nut x, and handle s, in combination, when constructed and arranged specifically, as and for the purposes set forth.

Niagara city, New York, January 4, 1866.

CHAS. R. EDWARDS.

Witnesses:

JAMES LOW, Jr.,

EMANUEL METZ.