

A. A. WARNER.
 COFFEE OR SPICE MILL.
 APPLICATION FILED JAN. 22, 1909.

933,008.

Patented Aug. 31, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

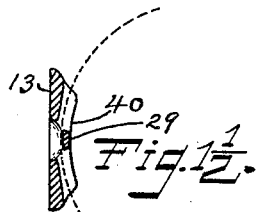
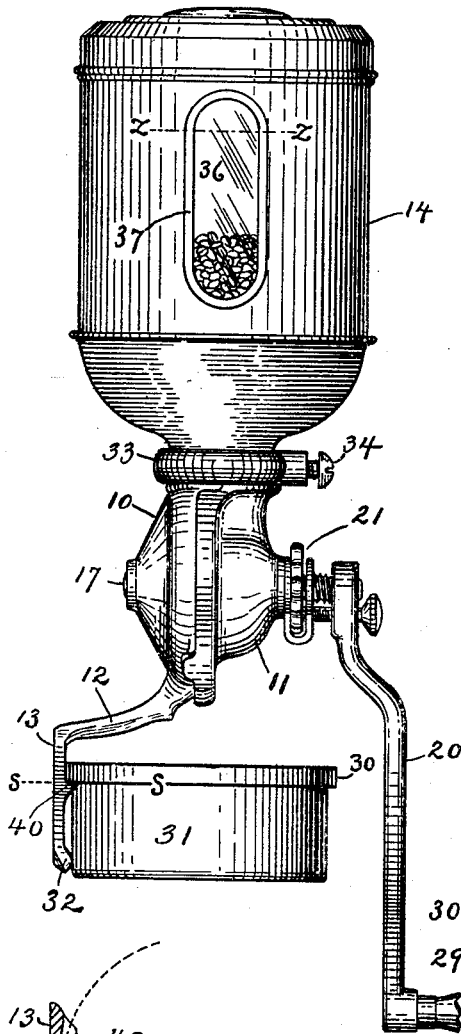


Fig. 2.

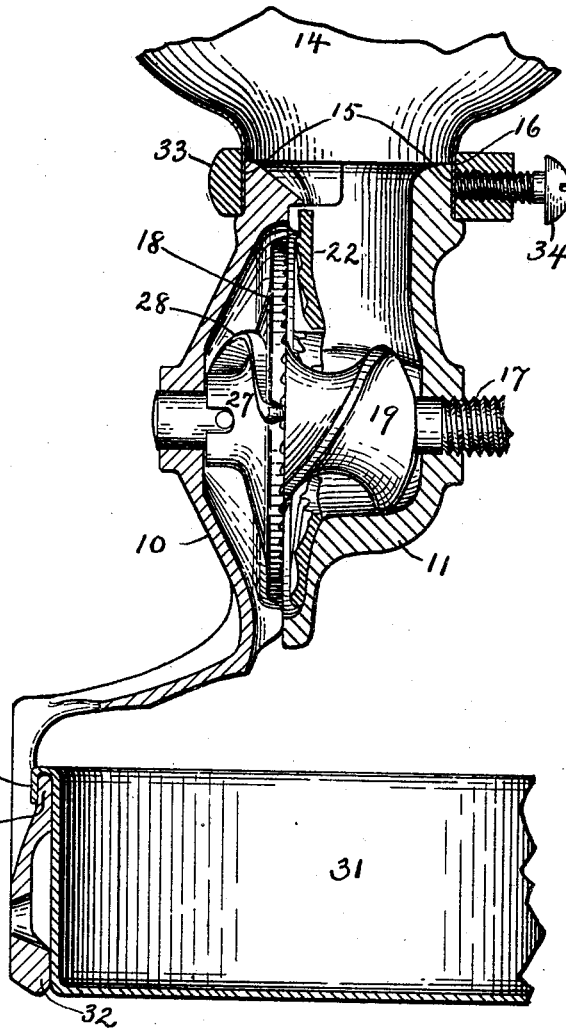
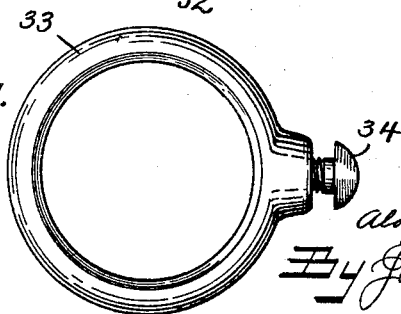


Fig. 3.



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 2 SHEETS—SHEET 2.

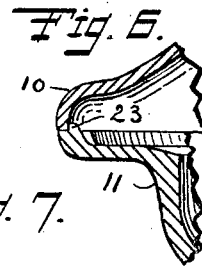
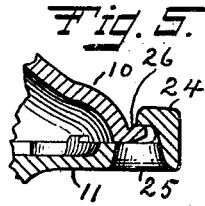
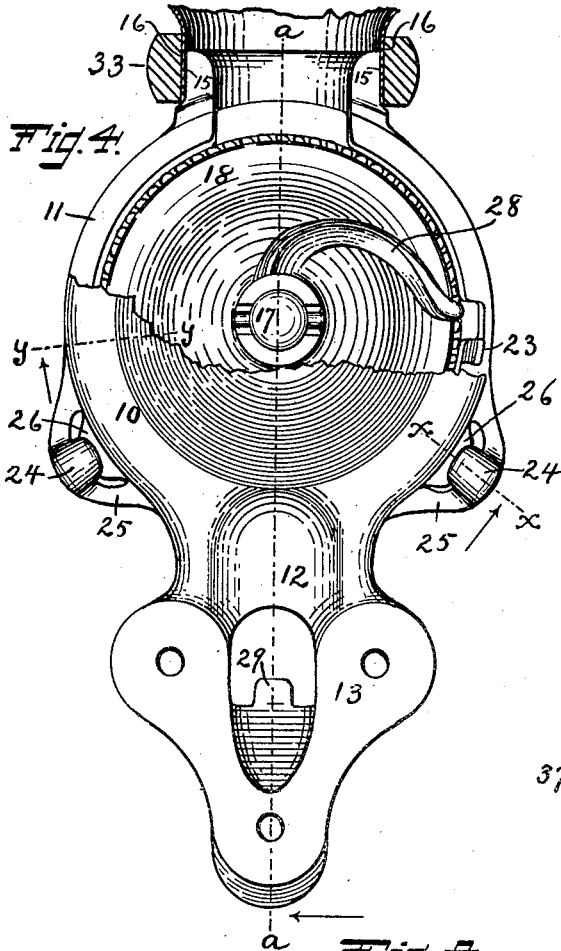


Fig. 7.

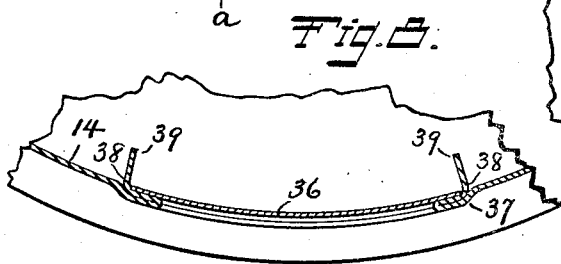
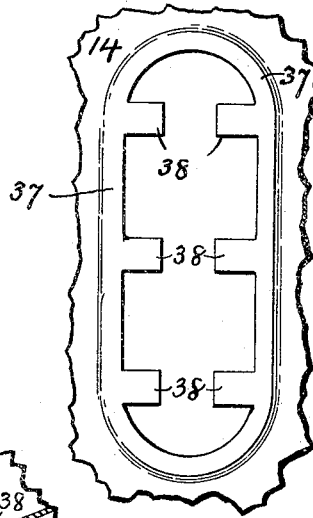
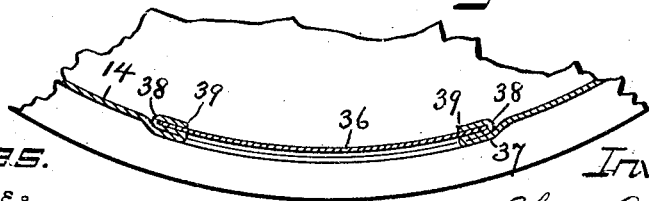


Fig. 8.

Fig. 9.



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UNITED STATES PATENT OFFICE.

ALONZO A. WARNER, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO LANDERS, FRARY AND CLARK,
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COFFEE OR SPICE MILL.

933,008.

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Application filed January 22, 1909. Serial No. 473,612.

To all whom it may concern:

Be it known that I, ALONZO A. WARNER, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Coffee or Spice Mills, of which the following is a specification.

My invention relates to improvements in coffee or spice mills, and the objects of my improvements are simplicity and economy in construction and convenience and efficiency in use.

In the accompanying drawing: Figure 1 is a side elevation of my coffee or spice mill. Fig. 1½ is a horizontal section of the bracket arm on line *s s* Fig. 1. Fig. 2 is an enlarged vertical section of portions of my mill on the line *a a* Fig. 4, with portion of hopper broken away, adjusting mechanism and crank omitted, and forcer and runner in side elevation. Fig. 3 is a plan view of the clamp ring for my mill. Fig. 4 is a rear elevation, part broken away and base of hopper and clamp ring in section. Fig. 5 is a sectional view on the line *x x* Fig. 4, of portions of the case or body of my mill. Fig. 6 is a sectional view of the same on *y y* of Fig. 4. Fig. 7 is a front elevation of the window boss on the hopper and integral window lugs before being bent into their final form. Fig. 8 is an enlarged sectional view on the line *z z*, Fig. 1, of the same with the lugs bent into form to receive the window pane together with a sectional view of the said pane. Fig. 9, is a like view of the same, with the lugs bent into their final form.

The case or body of the mill is a two part structure, consisting of the main or wall part 10 and front or cap 11, the said wall part having a bracket arm 12 and wall plate 13 for securing the mill to a wall. The said two parts are provided with interlocking lugs and recesses below the upper end, while at the said upper end the parts are provided each with a semi-cylindrical and hollow neck, the two forming interiorly the mouth of the case at the base of a separate hopper 14 and exteriorly a cylindrical neck 15 to receive the cylindrical lower end 16 of the hopper 14. The case in general is or may be of any ordinary form, the only feature thereof which is essential to my invention being the cylindrical neck at the upper end of its two parts.

The case is fitted in any ordinary way to the shaft 17, carrying a moving mill disk or runner 18 and screw or worm 19, a crank 20, and any desired adjusting devices, as at 21. A fixed mill disk 22 surrounds the screw or worm 19 and is held in any proper manner within the case to act in opposition to the moving disk 18.

As shown, the lugs and recesses comprise guide lugs 23 on the front 11 which engage with the rim of the wall part 10, as shown best in Fig. 6, to secure proper registration of said front and wall part, and a lug 24 mounted on a flange 25 extending outwardly from the front 11 engaging suitable flanges 26, extending outwardly from the wall part 10, as best shown in Fig. 5, for locking said front 11 and wall part 10 together.

The moving mill disk 18 has a backwardly extending hub 27 at its center, suitably for mounting on the shaft 17 and is provided with a clearer or wiper consisting of a rib 28, extending from said hub 27 in a generally spiral line to the outer edge or rim of said disk 18, the top edge of said rib 28 substantially fitting the inner wall of the wall part 10, said rib 28 being adapted when said moving mill disk 18 is operated rotatively on its axis to sweep through and over the interior space between the said inner wall of the wall part 10 and the general surface of the back wall of said moving mill disk 18 and thereby prevent the accumulation of ground or other material in said space.

The wall plate 13 on the bracket arm 12 is provided on its front face with a horizontal rib 40, best shown in Fig. 1½, the vertical face on the front of which rib is adapted to support the receiving cup 31, while an upwardly projecting lug 29 receives and supports an outwardly and downwardly projecting flange 30 on the rim of the said cylindrical receiving cup 31, the general conformation of which cup is indicated by the broken line in Fig. 1½. The said cup 31 is preferably made of sheet metal and is provided at its rim with an outwardly and downwardly extended flange 30 for hooking upon the lug 29 on the wall plate 12, at any desired point in the circumference of the said cup. The lower edge of the flange 30 may bear on the upper face of the horizontal rib 40 while the body of the cup just under the flange bears upon the vertical

face of the horizontally extended rib 40. The cup is further supported by a projection 32 on the face of the wall plate.

5 The cylindrical lower end 16 of the hopper 14 is made a good fit for the cylindrical neck 15 formed by the two semi-cylindrical upper ends of the wall part 10 and front 11 of the casing so as to be adapted to hold said upper ends rigidly together when 10 mounted thereon. In order to insure said cylindrical lower end 16 of the hopper 14 remaining in position and to form a positive locking together of the same and the said upper ends a suitable separate clamp 15 ring 33 having a set screw 34, is provided, the inside diameter of which ring is made to fit the outside diameter of the said cylindrical lower end 16 of the hopper 14. The said clamp ring 33 is first placed on the 20 outer side of the cylindrical lower end 16 of the hopper after which the said lower end with the ring on it is placed on the cylindrical neck of the two parts of the case and all secured against accidental displacement 25 by tightening up the set screw 34.

The body of the hopper 14 is provided with a window consisting of a pane 36 of glass or other suitable material, let into and substantially fitting a window boss or frame 30 37 in the side wall of the hopper and held in place by six integral lugs 38, shown in development in Fig. 7. These lugs as first blanked out extend inwardly from the edge of the metal of the boss 37 into the space of 35 the window opening. Said lugs 38 are first bent back on the metal that surrounds the inner edge of the said boss 37, with the ends 39 of the said lugs projecting into the interior of the hopper. The pane 36 may be 40 placed in position in said boss 37 with its front face bearing against the rear faces of said bent back lugs 38, as shown in Fig. 8, after which the projecting ends 39 are bent down over against the inner face of the pane 45 36, for holding the same in position, as shown in the completed window in Fig. 9.

I claim as my invention:

1. In a coffee or spice mill, having a 50 downwardly and backwardly projecting supporting arm provided at its lower end with a wall plate, a receiving cup supporting lug projecting upwardly on the front of said wall plate and adapted to receive an out-

wardly and downwardly extending flange on the rim of a receiving cup. 55

2. In a coffee or spice mill, a wall plate by which the mill may be secured in place, a horizontally extended rib on the front face of the said plate, said rib having a substantially flat upper face and a vertical front 60 face, a lug projecting upwardly from the upper face of the said rib, and a cup having an outwardly turned rim and a downwardly extended flange adapted for hooking upon the said lug, while the side of the cup just 65 below the flange bears on the vertical front face of the said horizontally extended rib.

3. In a coffee or spice mill, a two part case having a cylindrical neck formed by the upper ends of its two parts, a hopper 70 having a cylindrical lower end of a size to receive into it the said cylindrical neck, a clamp ring adapted to fit over and inclose the said cylindrical lower end of the hopper and means for securing the said clamp ring 75 in place on the said cylindrical lower end and neck of the case.

4. In a coffee or spice mill, a two part case having a cylindrical neck at its upper end, a hopper having a cylindrical lower end 80 interiorly fitted to the exterior of the said neck, a clamp ring fitted to the exterior of the said cylindrical lower end and a clamping screw for binding the said parts together. 85

5. In a coffee or spice mill, a sheet metal hopper having a window boss and integral lugs formed on the metal at the inner edge of the opening in the said boss, and a window pane let into the said boss and having 90 the ends of the said lugs bent over the outer edges of the said pane on its inner face.

6. In a coffee or spice mill, a sheet metal hopper having a window opening therein with integral lugs at the edges of the said 95 opening, and a window pane covering the said opening and held in place by means of the said lugs which are first bent back on the metal surrounding the window opening on the outer face of the said pane and then 100 over the edges of the said pane and down upon the inner face thereof.

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