(No Model.)

2 Sheets—Sheet 1.

F. H. CHAPMAN.

COFFEE MILL.

No. 279,130. Patented June 12, 1883.

Fig. 1.

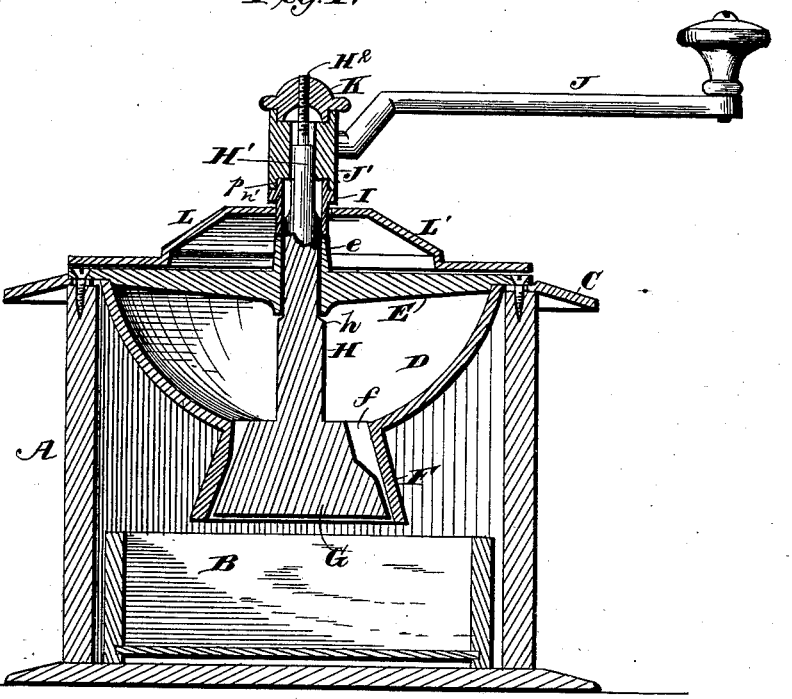
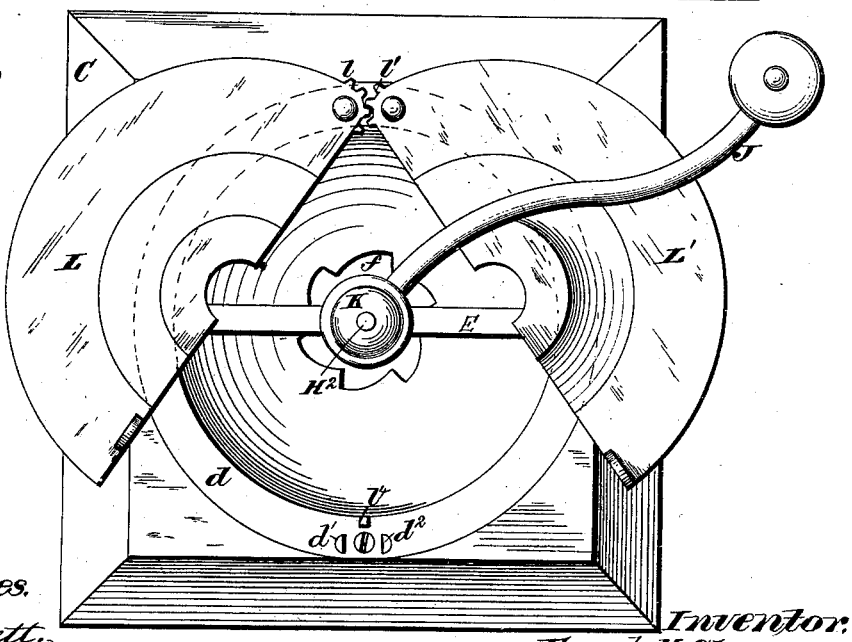


Fig. 2.



Witnesses.
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(No Model.)

2 Sheets—Sheet 2.

F. H. CHAPMAN.

COFFEE MILL.

No. 279,130. Patented June 12, 1883.

Fig. 3.

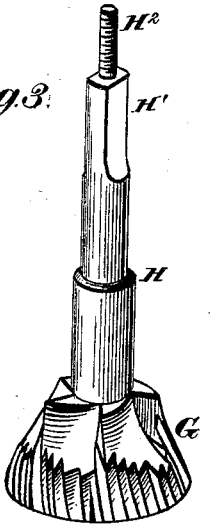


Fig. 4.

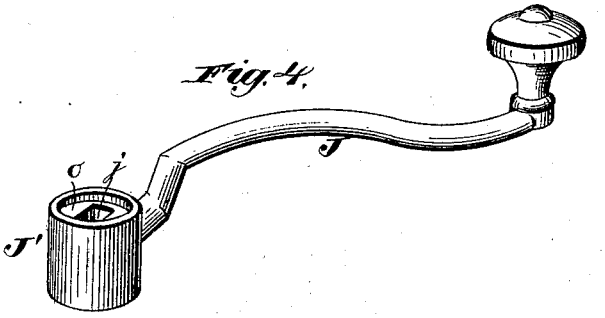


Fig. 5.

Fig. 6.

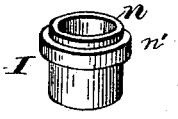
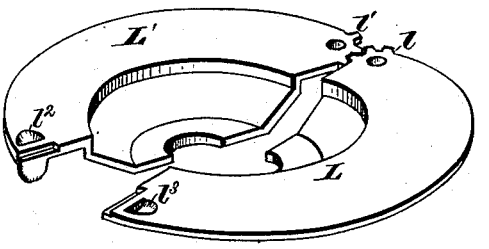


Fig. 7.



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UNITED STATES PATENT OFFICE.

FRANK H. CHAPMAN, OF MERIDEN, CONNECTICUT, ASSIGNOR TO THE CHARLES PARKER COMPANY, OF SAME PLACE.

COFFEE-MILL.

SPECIFICATION forming part of Letters Patent No. 279,130, dated June 12, 1883.

Application filed February 26, 1883. (No model.)

To all whom it may concern:

Be it known that I, FRANK H. CHAPMAN, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Coffee-Mills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to that class of coffee-mills in which a conical runner is used within a conical case or shell, the runner-spindle being provided with a nut for adjusting said runner up or down, to grind more finely or more coarsely as desired.

In the accompanying drawings, Figure 1 represents a vertical section of a coffee-mill embodying my invention. Fig. 2 represents a plan view of the same with the cover open. Fig. 3 represents a detail view of the runner and its spindle. Fig. 4 represents a detail view of the crank-arm. Fig. 5 represents a detail view of the adjusting-nut. Fig. 6 represents a detail view of the collar, hereinafter referred to; and Fig. 7 represents an under view of the sectional cover.

In said drawings, A designates the box of a coffee-mill; B, the drawer; C, the metallic casting forming the top of said box; D, the hopper attached thereto by screws passing through its peripheral flange or rim *d*; E, a bridge countersunk in the top of said hopper, and provided at its middle with an upright tubular bearing, *e*; F, a conical internally ridged or roughened shell, cast with said hopper, and communicating with it by means of an opening, *f*, in the bottom of the latter; and G, a conical runner of cast metal, which is ridged or roughened on its sides and turns within said shell to do its grinding. A spindle, H, is cast with said runner, and extends up through bearing *e*, being provided with a shoulder, *h*, which by contact with the lower end of said bearing prevents said spindle from being drawn up too far through the said bearing. On the top of said bearing rests a collar, I, and on top of this collar rests the tubular inner end, J′, of a crank-arm, J, whereby the mill is operated. The spindle H extends up through the said collar I and tubular part J′ of arm J, the part H′ of said spindle passing through the latter being flattened, as shown, (or of prismatic or irregular shape,) in order that it may turn with the crank-arm. The passage or opening *j* through the latter is of corresponding shape. The upper end, H^2, of said spindle H is screw-threaded, to receive a nut, K, which holds the crank-arm, collar, spindle, and runner in place, and also adjusts the latter up or down, so that it will grind more or less finely as desired.

The cover consists of two sections, L L′, which are pivoted independently, but at proximate points, and provided with toothed segments *l l′*, which mesh together, so that when one section, L or L′, is opened the other opens also. They operate together similarly in closing.

It is very desirable to insure regularity of running by providing means for causing the crank-arm, nut, and collar to brace each other. To effect this I form an annular flange, *m*, on the under side of the nut K, and a similar flange, *n*, on the upper end of collar I, and make corresponding recesses *o p*, respectively, in the top and bottom of the tubular part J′ of crank-arm J. The flange *m* fits into recess *o*, and the flange *n* fits into recess *p*, and these flanges prevent the crank-arm from swaying about, since they afford it a more reliable bearing than it otherwise would have, and they prevent any independent motion of said tubular part J′ over said collar or under said nut. As said nut clamps said tubular part J′ of the crank-arm down against said collar and the latter down against the fixed bearing *e*, the interlocking parts of said nut and collar and said crank-arm brace each other very effectually, and turn together as one piece. Of course the flanges may be on the tubular part of the crank-arm, and the recesses may be in the nut and collar. The latter may also be in one piece with the fixed bearing *e*, or with a fixed cover for the coffee-mill box. Said collar acts as a support for the tubular part J′ of the crank-arm J, and holds up the same out of the way of the cover L L′.

The collar I is provided, just below the ver-

tical annular flange n, with an external horizontal flange, n', on which rests the lower end of the tubular inner end, J', of crank-arm J. The cylindrical shape of the collar tends to make the pressure of the collar on the bridge even and vertical.

On the top of the rim d of the hopper D, at the front thereof, I form two slight protuberances, d' d^2, and in the under side of the cover-sections L L', I make notches or recesses l^2 l^3, which catch over said protuberances and hold the cover-sections in place, so that they will not be accidentally dislodged. A stop, l', on the top of said rim d fits into recesses in the contiguous edges of said sections, and prevents them from jarring together.

I am aware it is not new to use a flaring collar without flanges for the inner end of the crank-arm to rest on, said collar being supported by an arch, and the other parts arranged substantially as I have described. This, however, I do not claim.

I am also aware that covers have been fastened to the tops of boxes by notches or recesses catching over protuberances; that the form of cover shown herein is not new in coffee-mills, and that such covers have been fastened by openings in them catching over fixed protuberances. I do not claim these constructions, broadly; but,

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

1. The cylindrical collar I, having at its upper end the vertical annular flange n and horizontal annular flange n', in combination with crank-arm J, the tubular inner end of which is recessed to receive flange n, and rests upon flange n', the runner-spindle H, bridge E, and nut K, substantially as set forth.

2. A coffee-mill comprising a fixed stop, l', fixed protuberances d' d^2, and cover-sections L L', recessed to receive said stop when they are closed together, and provided with notches or recesses to catch over those protuberances, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK H. CHAPMAN.

Witnesses:

DEXTER W. PARKER,

RALPH A. PALMER.