

(No Model.)

A. B. McCANNA & B. B. BRADY.  
COFFEE GRINDER.

No. 425,817.

Patented Apr. 15, 1890.

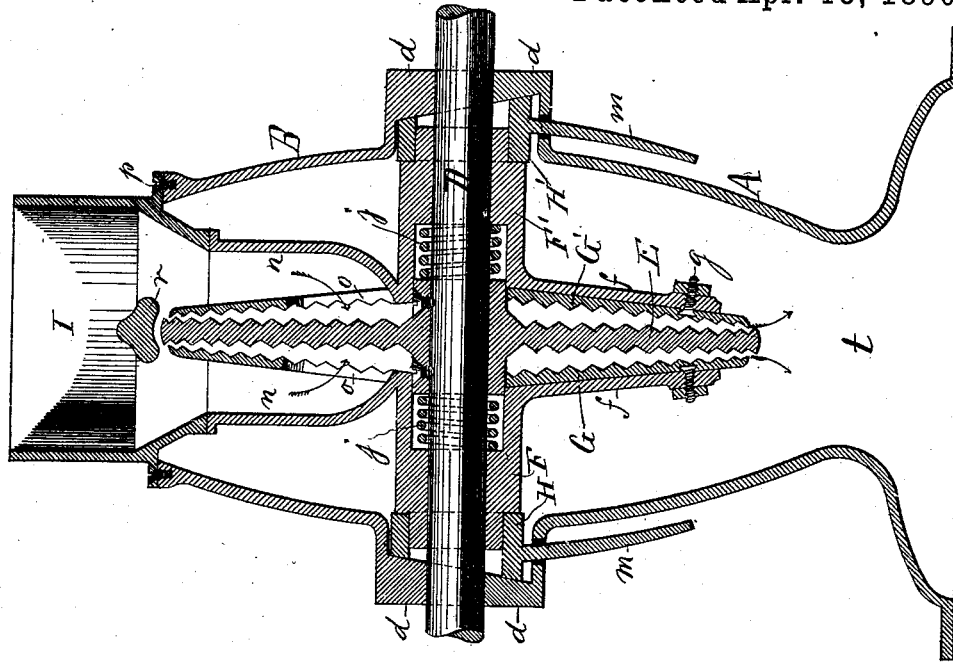


Figure 2.

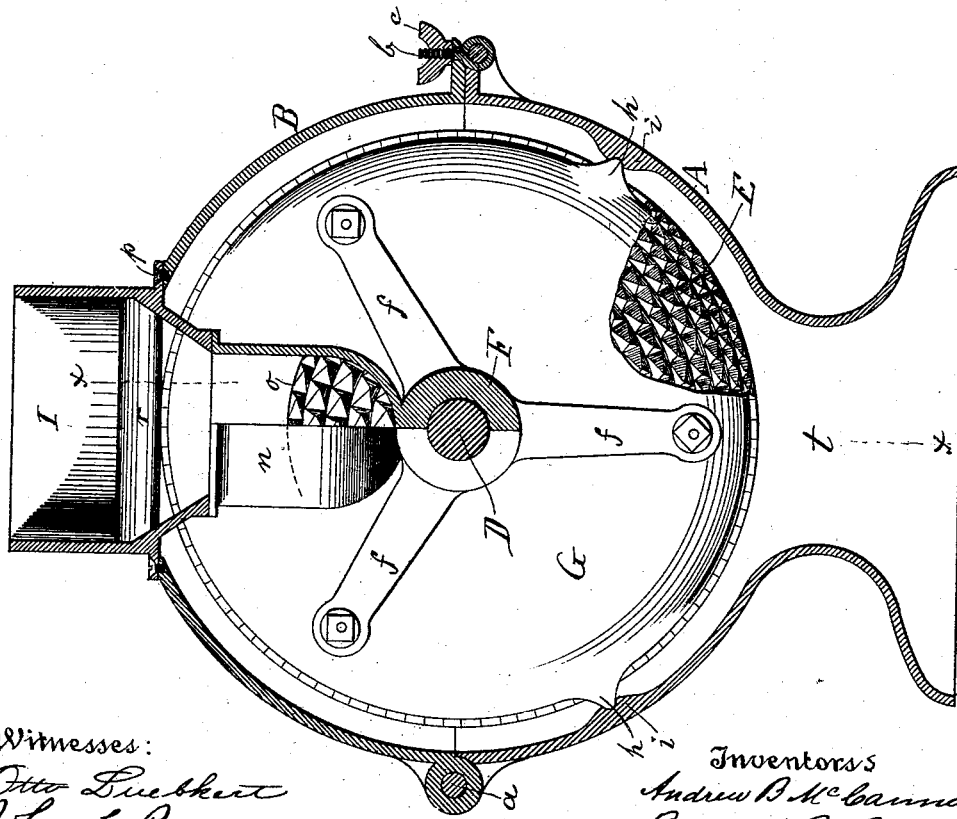


Figure 1.

Witnesses:  
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By their Attorney, *Wm. B. Lutz*

# UNITED STATES PATENT OFFICE.

ANDREW B. McCANNA AND BERNARD B. BRADY, OF CHICAGO, ILLINOIS.

## COFFEE-GRINDER.

SPECIFICATION forming part of Letters Patent No. 425,817, dated April 15, 1890.

Application filed February 10, 1890. Serial No. 339,867. (No model.)

*To all whom it may concern:*

Be it known that we, ANDREW B. McCANNA and BERNARD B. BRADY, citizens of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Coffee-Grinders, of which the following is a specification, reference being had therein to the accompanying drawings.

This our invention has for its object to provide a mill for grinding roasted coffee and also spices, in which the rotating disk is arranged to have grinding-teeth on both its faces, in which a stationary grinding-disk is arranged to each side of the rotating disk to be laterally adjustable from the outside of the frame, and in which a hopper is provided that will feed through both stationary disks in uniform quantities, and which is arranged within a frame or casing that can be readily opened for cleaning the machine; and with these objects in view our invention consists of the novel devices and combinations of devices hereinafter described and specifically claimed.

In the accompanying drawings, Figure 1 represents a sectional elevation of the machine, and Fig. 2 a transverse vertical section through line  $x x$  of Fig. 1.

Corresponding letters of reference in the several figures of the drawings designate like parts.

A denotes the lower half and B the upper half of the frame, being two semicircular shells connected at one side by a hinge  $a$ , and secured together on their opposite side by an eyebolt  $b$ , pivotally secured in an eye-lug of the lower frame and extending through a slot of a lug of the upper frame, where a thumb-nut  $c$  is screwed thereon for detachably holding both frames together. This frame A B, thus secured together, forms a shell or casing for the grinding-disks. These frames A and B have each on their adjoining edge a central semicircular boss  $d$  to each side, which of both frames combined will form round bosses through central holes in which the shaft D is projected, and upon the center of this shaft is rigidly mounted the hub of grinding-disk E, having teeth formed upon both its faces. Upon each side of this disk are loosely mounted upon shaft D sleeves F and F', each provided

with three spider-arms  $f$ , having eyed ends for connecting by countersunk screws  $g$  two somewhat dished disks G and G', each provided with teeth on its inward face. These disks G and G' are held from turning without interfering with lateral adjustment by having each two spurs  $h$ , entering grooves of protuberances  $i$ , inside of the frame A.

Each sleeve F F' is counterbored from its inward end to provide a socket which will admit the end of the hub of disk E, and between the bottom of these sockets and the hub of the disk E are placed over the shaft D, spiral springs  $j$ , having the tendency to push the sleeves F F' outward, or away from disk E. The outward ends of sleeves F and F' are turned smaller to provide shoulders, and upon this smaller diameter ends of each sleeve F F' are pivoted rings H H', each abutting with one end against the shoulder of the sleeve. The outer faces of the rings H H' and the inner faces of the bosses  $d$  are each formed with a cam-face, whereby the rotation of such rings H H' in one direction will move the sleeves F F', and therewith the disks G G', toward the disk E, thereby contracting the spring  $j$ . Each ring has an arm  $m$  projecting through a slot in the bottom of boss  $d$ , so the machine can be adjusted exterior of the casing by swinging said arms  $m$ .

To each sleeve H H', between two of its spider-arms  $f$ , is formed a spout  $n$ , and each disk G G', to communicate with the bottom of such spout  $n$ , is provided an opening  $o$ , through which the coffee will enter the space at hub of disk E, between this disk E and disks G and G', which space becomes narrower toward the periphery of the disks, so that the coffee is reduced by degrees, escaping from between the peripheries of the several disks in a ground condition.

The frame B is provided on its top with an opening for the hopper I, rigidly secured to frame B by screws  $p$ , and with its lower end forming a close butt-joint with the top edges of spouts  $n$ , so as not to interfere with the lateral adjustment of the disks G G', for a coarser or finer grinding by means of the cam-rings H H', and this hopper I is provided with a longitudinal bridge-bar  $r$ , covering the top edges of the disks E and G G', and dividing the feed into both spouts  $n$ . The frame A

has a central vertical opening *t* below the disks, through which the ground coffee will drop into a receiver-box or drawer arranged below the machine.

5 Upon one projecting end of shaft D will be mounted a crank or pulley for driving the same, and upon its opposite projecting end a balance-wheel will be mounted in the usual manner.

10 In a machine so constructed, the coffee being fed into both sides of the grinding-disk to be reduced thereby, all lateral strain will be obviated, while the grinding capacity will be doubled proportionally with the size of the machine, and again the adjustment of the  
15 stationary grinding-disks for a coarser or finer reduction is made very easy.

What we claim is—

1. In a coffee-grinder, the combination of  
20 frame A B, shaft D, with disk E mounted thereon, of sleeves F F', with spider-arms *f*, and of disks G, one on each side of said disk E and secured to these spider-arms, and of a suitable device for laterally adjusting the  
25 sleeves F F' each independently of the other, all substantially as set forth.

2. In a coffee-grinder, the combination of frame A B, of shaft D, with disk E mounted thereon, of sleeves F F', with spider-arms *f*,

and with spouts *n*, communicating with hopper I, and of disks G G', secured to the spider-arms *f*, all substantially as set forth.

3. In a coffee-grinder, the combination of frame A B, shaft D, with disk E mounted thereon, of sleeves F F', with disks G G' secured thereto, of springs *j*, interposed between the hub of disk E and the sleeves F F', and of cam-rings H H', having arms *m*, all substantially as set forth.

4. In a coffee-grinder, the combination of  
40 frame A B, shaft D, with disk E mounted thereon, of sleeves F F', with disks G G' secured thereto and having spurs *h* guided in grooves of the frame, of springs *j*, interposed between the hub of disk E and sleeves F F',  
45 of cam-rings H H', having arms *m*, and of spouts *n*, forming part of sleeves F F' and communicating with the hopper I of the frame, and through openings *o* with the spaces between disks E and G, all substantially as  
50 set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

ANDREW B. McCANNA.  
BERNARD B. BRADY.

Witnesses:

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OTTO LUEBKERT.