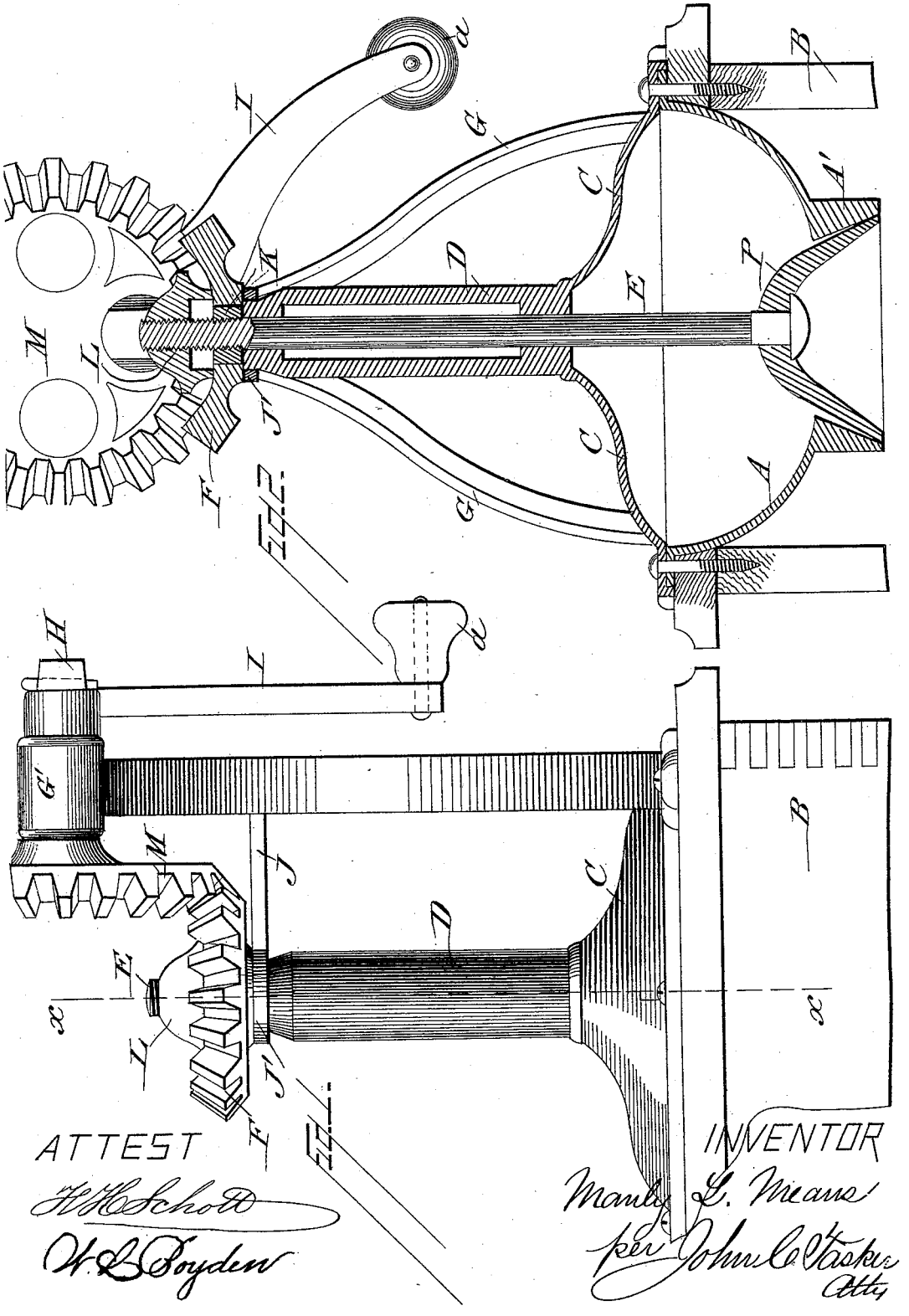
(No Model.)

M. L. MEANS.

COFFEE MILL.

No. 424,120. Patented Mar. 25, 1890.



UNITED STATES PATENT OFFICE.

MANLY L. MEANS, OF LEE, OHIO.

COFFEE-MILL.

SPECIFICATION forming part of Letters Patent No. 424,120, dated March 25, 1890.

Application filed October 24, 1889. Serial No. 327,989. (No model.)

To all whom it may concern:

Be it known that I, MANLY L. MEANS, a citizen of the United States, residing at Lee, in the county of Athens and State of Ohio, 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.

My invention relates to an improvement in coffee-mills, the object thereof being to simplify and perfect the construction of devices of this class, which are used for the purpose of grinding coffee or other substances; and the invention consists in the construction, arrangement, and combination of parts, substantially as will be hereinafter described and claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a side elevation of my improved coffee-mill. Fig. 2 is a vertical section of the same, certain parts being shown in elevation.

Like letters of reference designate like parts in both figures.

A denotes the hopper or coffee-containing receptacle of my improved mill. Into it the coffee to be ground is placed or fed in any desired manner. This hopper is supported on the box B, which is preferably of wood, and is constructed in the ordinary way. The hopper A is of any desirable form and size. It is provided with the circular flanged opening A′, wherein operates the grinding-cone P. The inner peripheral face of the flange A′ is preferably inclined and the grinding-cone P is preferably curved or bell-shaped. Obviously the form of the grinder may be changed, if desired, that given in the drawings being by way of example simply.

C denotes the cover of the hopper. Integral with this cover is the hollow upright D, which is designed to serve as a handle for the mill. The cover C is suitably secured in place by means of screws or other means. The height of the upright D may vary, as desired. In the drawings I have represented it as having a convenient length to adapt it for the purpose for which it is intended. Within this hollow upright is located the rod or bolt E, to the lower end of which is connected the grinding-cone P. Suitable bearings are formed in the upper and lower ends of the tubular upright D, to receive the said bolt or rod. The upper end of the bolt or rod E is screw-threaded. On this screw-threaded portion is a square nut K, which is screwed down so as to rest neatly upon the upper end of the upright D, said nut being at the lower end of the threaded portion of the bolt. The said nut K also fits neatly within a square central hole or opening in the horizontally-located bevel-pinion F, which is supported in its horizontal position by resting upon the upper end of the standard D. On the upper portion of the screw-threaded end of the bolt is an adjusting-nut L, the lower peripheral edge of which, as shown, rests upon the top face of the bevel-wheel. It will thus be manifest that by turning the nut L the bolt or rod E may be adjusted up and down, so as to regulate the position of the grinding-cone P, and thus enable the mill to grind fine or coarse, as desired. It will also be evident that the gear-wheel F will rotate the vertical bolt E, and thus actuate the grinding-cone. The lower end of the bolt E is provided with a head, and adjacent to the head it is formed with a square part, which fits tightly within a square hole in the grinding-cone, and in this manner the grinding-cone P is securely fastened to the bolt E, so that when the latter rotates the grinder will have a simultaneous revolution.

G G represent curved braces, the lower ends of which are affixed to the box B by some suitable means, while the upper ends of said braces unite and are connected with a bearing G′, which receives a short horizontal shaft H, to which is securely fastened the vertical bevel cog-wheel M, which intermeshes with the horizontal bevel cog-wheel F, above mentioned. The braces G G extend upward at a suitable distance from the tubular upright D to permit of the proper arrangement of the gearing. A horizontal brace J is connected to the braces G G at a suitable distance below the bearing G′. The other end of said horizontal brace J is provided with a ring or loop J′, which encircles the standard or upright D at the upper end thereof. In this way the parts are securely steadied in their respective positions and kept firmly in place, so that the several mechanical parts may per-

form their respective functions during the operation of the mill without jar or disturbance. The end of the shaft H opposite that which carries the gear M is provided with a crank consisting of the rod I, affixed to the shaft H, at right angles thereto, the end of the said rod I being provided with a convenient handle or knob *a*. The vertical bevel-wheel M is preferably much larger in diameter than the horizontal gear F. This is for the purpose of enabling a high speed to be imparted to the grinder with but easy and ordinary revolution of the handle. By turning the crank-handle I at an ordinary speed it will be evident that a very fast motion will be communicated to the grinder through the gearing.

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

1. In a coffee-mill, the combination of the hopper, the hopper-cover having a vertical tubular upright forming a handle for the mill, the rod or bolt journaled in said upright and carrying the grinder at its lower end, the upper end thereof being screw-threaded and provided with a square nut and an adjusting-nut, the horizontal gear having a square central opening to receive the square nut on the said bolt, the braces having a bearing at their upper end, and the shaft in said bearing carrying the vertical gear, substantially as described.

2. In a coffee-mill, the combination of the hopper A, the box B, the hopper-cover C, having tubular upright D, the bolt E, carrying grinding-cone P, the nut K on the upper end of said bolt, the bevel-gear F, having square central opening to receive said nut, the gear M, engaging the gear F, the bearing G′, and the shaft H in said bearing, carrying gear M, together with the crank-handle, all substantially as described.

3. In a coffee-mill, the combination of the hopper A, having flange A′, the box B, the hopper-cover C, having tubular upright D, the bolt E, carrying grinding-cone P, the nut K on the upper end of said bolt, the bevel-gear F, having square central opening to receive said nut, the adjusting-nut L on the extreme upper end of bolt E, the gear M, engaging gear F, the braces G G, carrying bearing G′, and the shaft H in said bearing carrying gear M, together with the crank-handle, substantially as described.

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

MANLY L. MEANS.

Witnesses:
WILL E. MOHLER,
A. W. LYNCH.