

(No Model.)

E. H. & C. MORGAN.

COFFEE MILL.

No. 390,184.

Patented Sept. 25, 1888.

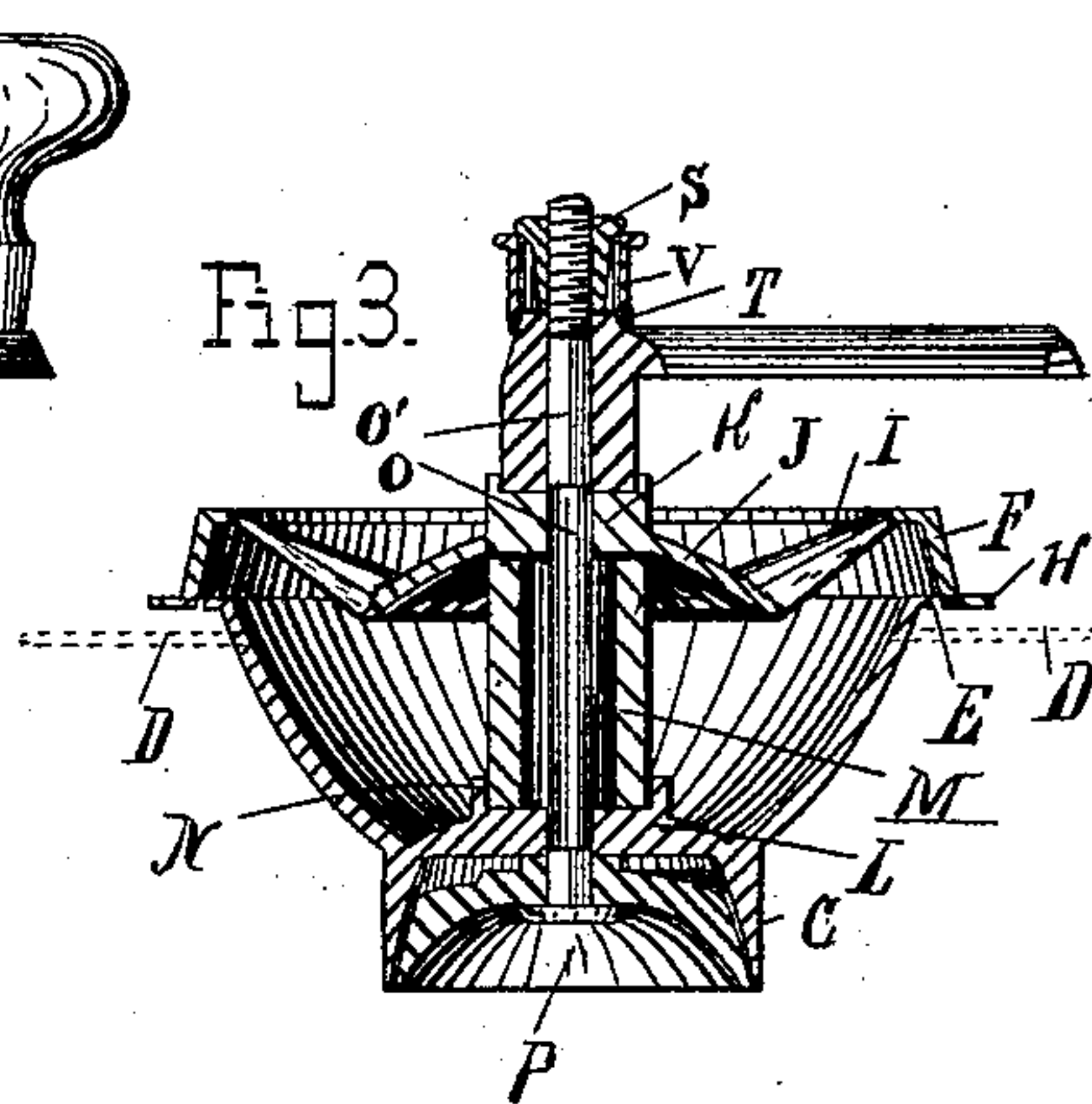
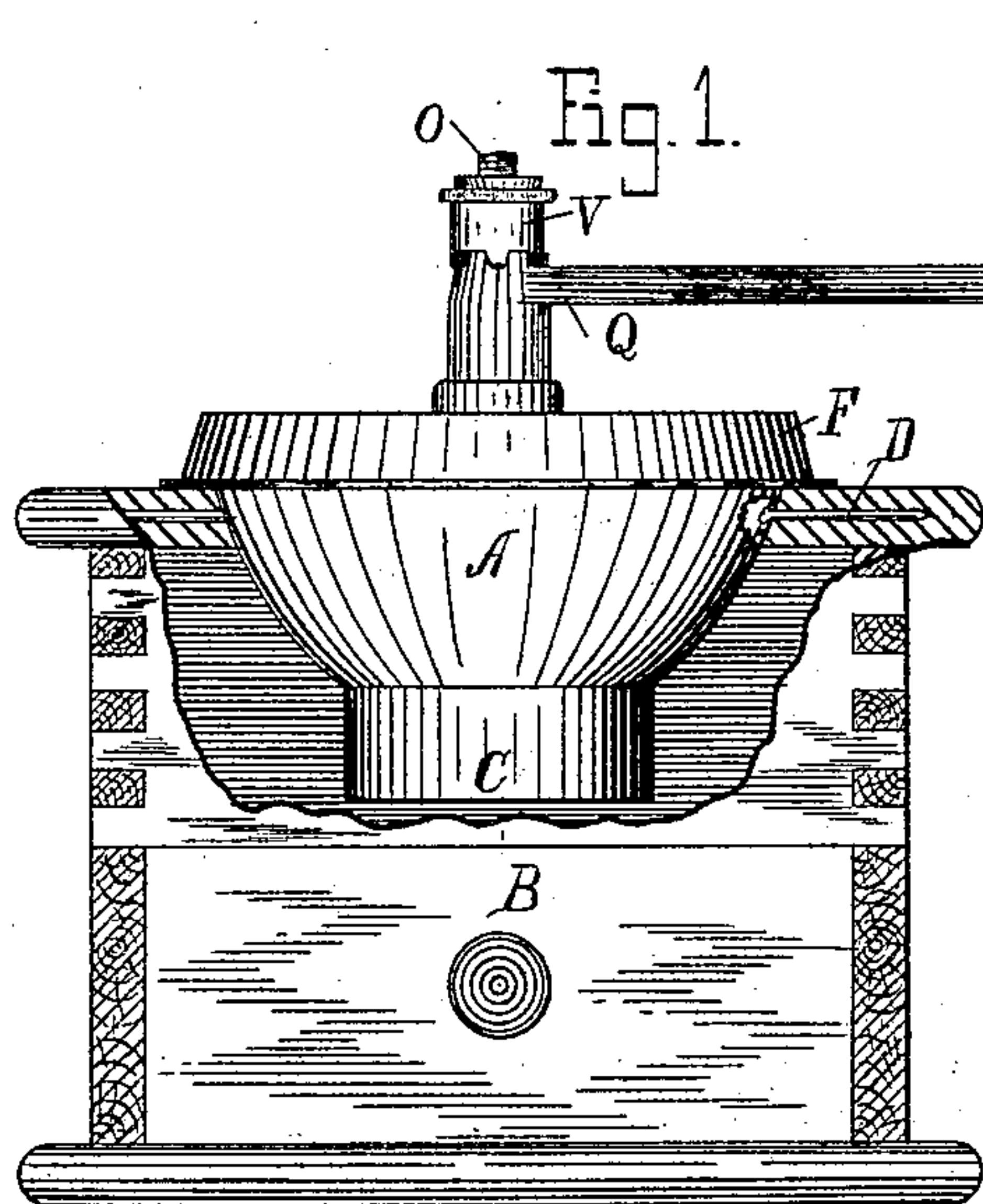
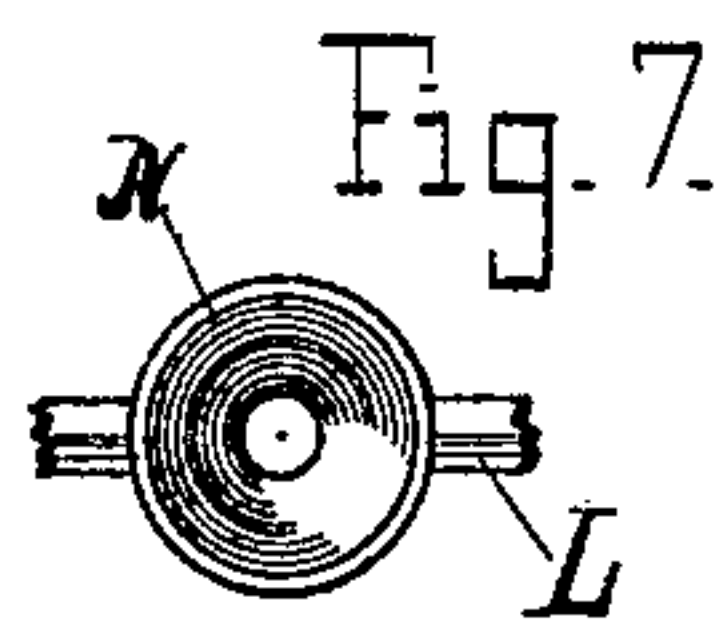
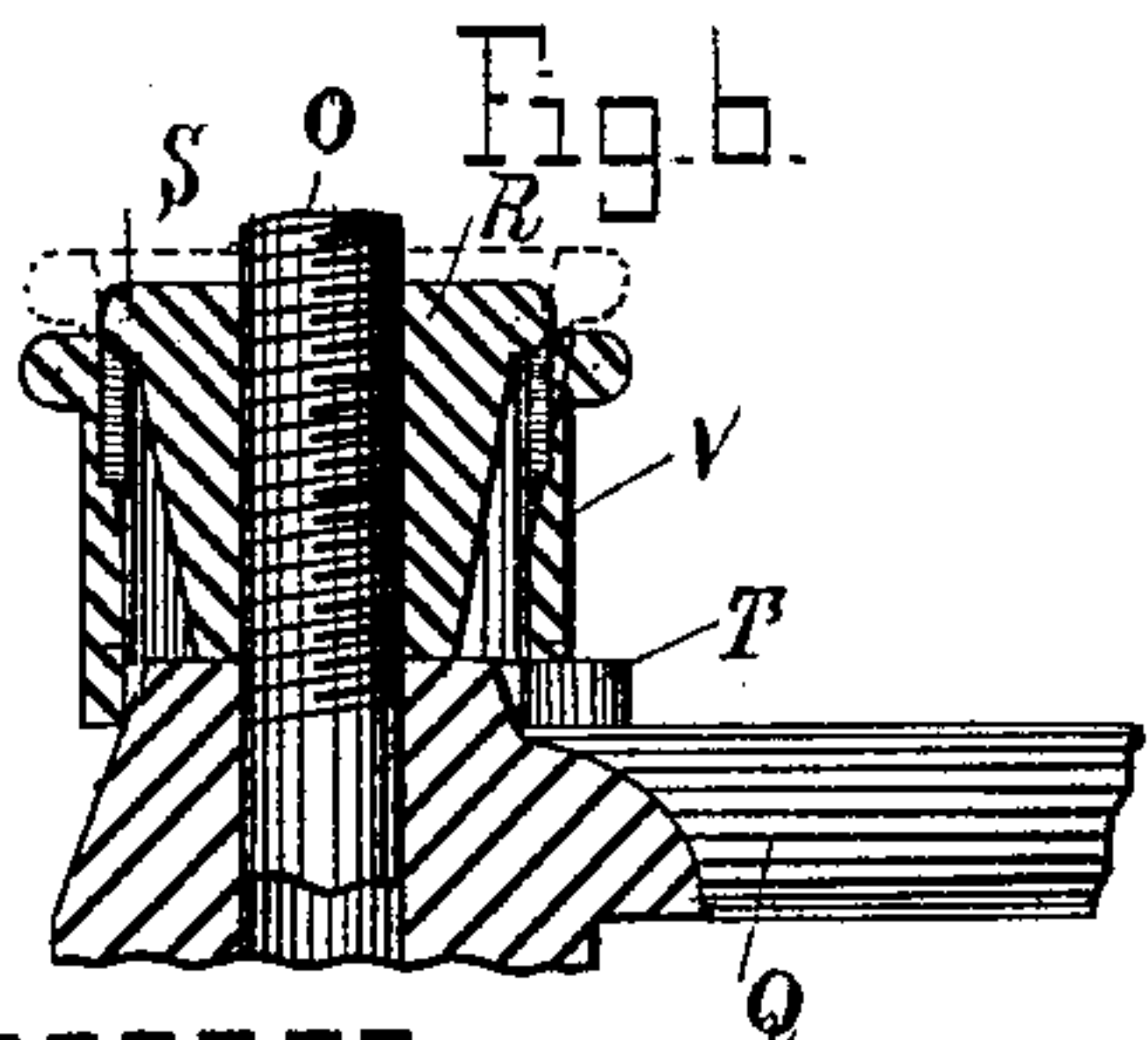
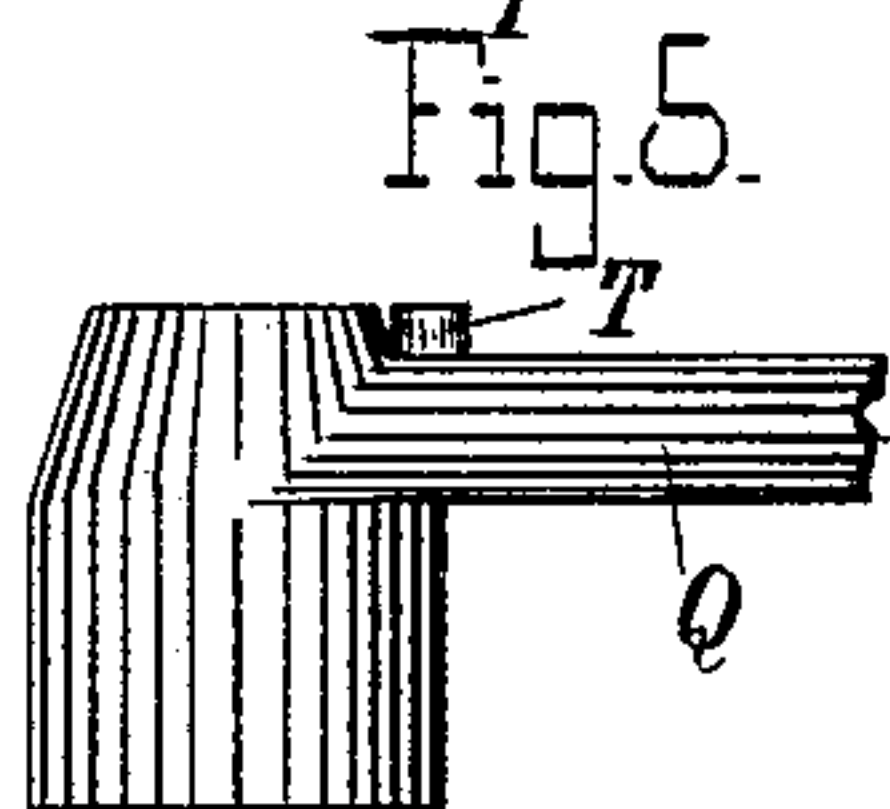
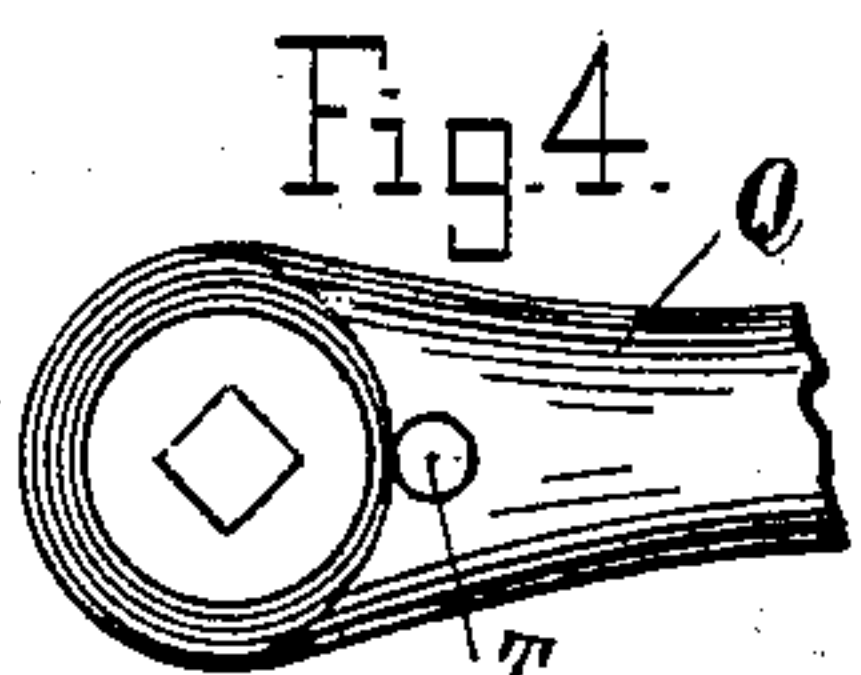
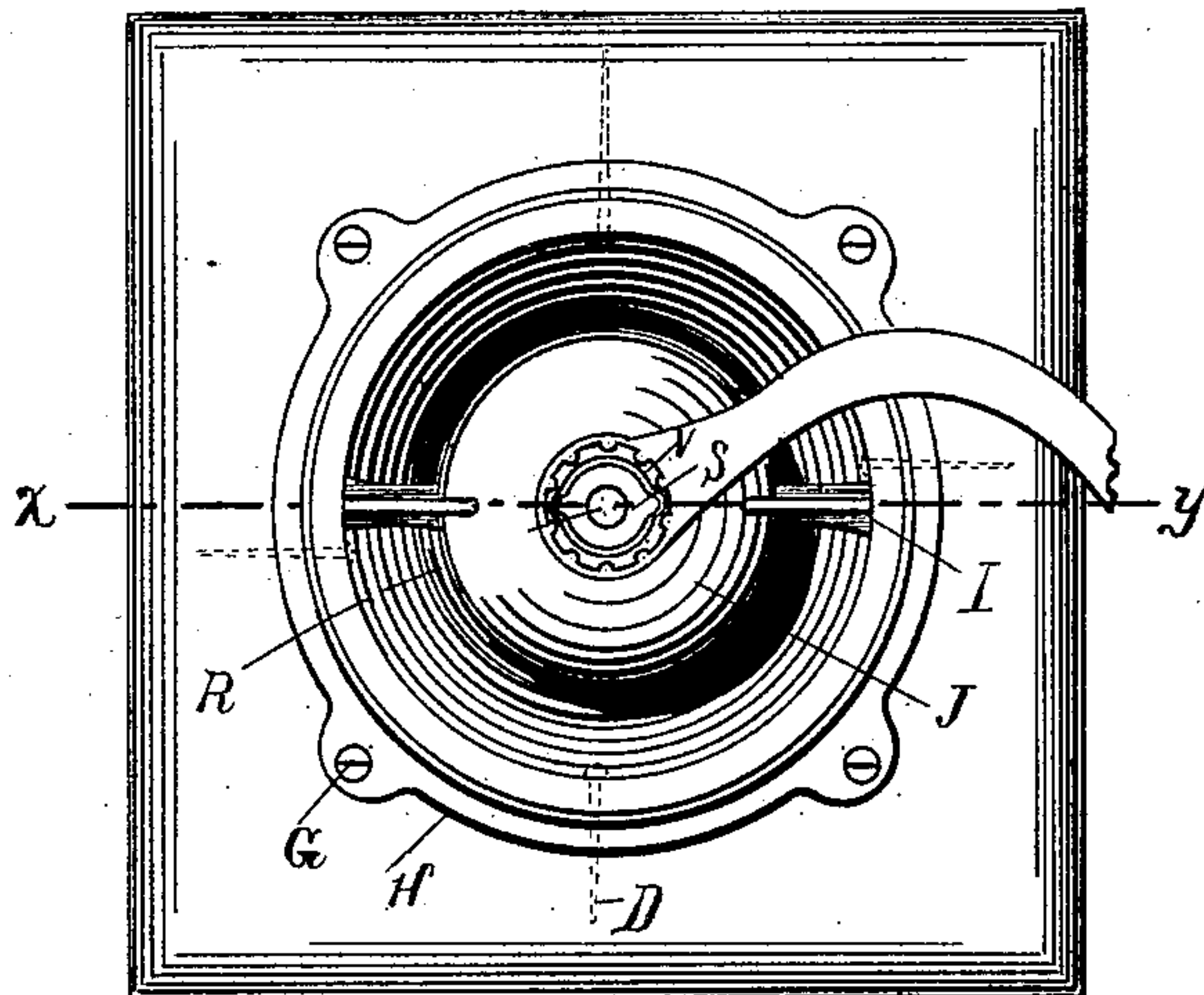


Fig. 2.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

EDGAR H. MORGAN AND CHARLES MORGAN, OF FREEPORT, ILLINOIS,  
ASSIGNORS OF ONE-THIRD TO ALBERT BAUMGARTEN, OF SAME PLACE.

## COFFEE-MILL.

SPECIFICATION forming part of Letters Patent No. 390,184, dated September 25, 1888.

Application filed November 18, 1887. Serial No. 255,496. (No model.)

*To all whom it may concern:*

Be it known that we, EDGAR H. MORGAN and CHARLES MORGAN, both residents of Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Coffee-Mills; and we 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 pertains to make and use the same.

In the drawings, to which this specification refers by letters, Figure 1 is a front elevation of the mill, a portion of the top and front being broken away. Fig. 2 shows the mill in plan. Fig. 3 is a central vertical section on the line *xy* of Fig. 2. Figs. 4, 5, and 6 are enlarged views showing details of the adjusting device.

The general features of the mill are similar to those of ordinary sunken hopper-box mills; but it is thought that the means for retaining the hopper in position, the adjustment, and the means for preventing the coffee-grains from being thrown from the hopper present patentable novelty and possess valuable advantages over devices heretofore employed.

In the drawings, A is a hopper suspended centrally from the top of an ordinary wooden box, B. The hopper is provided at its upper edge with a slight flange, E, which rests upon the upper surface of the box-top. The capacity of the hopper is increased by a ring, F, having an outwardly-turned flange, H, resting upon the box-top just outside of and surrounding the hopper-flange, and through the flange H screws G pass into the box-top and firmly fix the ring F thereto. The grinding-surfaces are respectively cone and shell, the latter, C, being formed integrally with the hopper. A bar, I, extends from side to side of the hopper near its junction with the shell C, and is enlarged at its middle to form a cup or stirrup, N, centrally perforated for the passage of a bolt, O, which sustains a grinding-cone, P. The upper portion of the bolt O is held in alignment by a bearing, K, supported on the axis of the mill by arms I, extending inward from the ring F. A spherical-shell segment or disk, J, is formed integrally with the hub K, and serves to prevent the accidental escape of coffee when the grains chance to slip from

the grinding-teeth, while at the same time its margin is everywhere at such a distance from the hopper that it scarcely impedes the passage of the coffee to the lower portion of the hopper. Upon the bolt O, and between the hub K and the cup or stirrup N, is a sleeve or hollow post, M, which rests in the cup, and through which the screws G exert a downward pressure upon the hopper, holding it firmly in position. This force, being applied at the bottom of the hopper, would, perhaps, be amply sufficient; but for greater strength nails D are driven horizontally into the box-top at suitable intervals through perforations in the upper part of the hopper. Screws might be employed; but the advantage of this point of construction is that the quickly-inserted nail is fully as efficacious, for the nails may be of great length, and no possible strain can even tend to withdraw them, which is not the case with vertical nails or screws.

The upper part of the body of the bolt O is squared, and upon this squared part slides a crank, Q, for imparting motion to the cone P. Upon the upper threaded end of the bolt O, which projects through the crank, is a nut, R, provided with lateral wings S, Fig. 2. The nut R, before being screwed upon the bolt, is dropped into a sleeve, V, grooved vertically upon its interior for the flanges S, so that it may pass vertically back and forth upon the nut. The grooves, however, do not extend to the bottom of the sleeve, and consequently the latter, while it may readily be raised a short distance, cannot be withdrawn entirely when the nut is upon the bolt. It is also evident that as the flanges S engage the sleeve neither can rotate about the bolt without the other. The lower margin of the sleeve V is notched, Fig. 1, and when at its lowest point, as in Fig. 6, one of these notches engages a lug, T, upon the crank, preventing the rotation of either sleeve or nut upon the bolt. When it is desired to adjust the mill, the sleeve is raised to the position shown in dotted lines, disengaging it from the lug T, when it may be rotated (carrying with it the nut) to any desired extent. When released, it again falls to its former position, locking the nut.

For convenience in manipulation, the sleeve



is provided with an exterior milled or crenate flange.

It is immaterial to the ends attained by using the disk J, formed integrally with the bearing or hub K, whether the disk be above, below, or in the plane of the arms I, supporting the bearing or hub K; also, whether the arms I be formed integrally with the ring F, whether the bar at the bottom of the hopper be formed integrally therewith, whether the hopper-flange be continuous, and, also, whether the sleeve M be a complete sleeve, since it simply acts as a strut to transmit pressure from the upper to the lower bar.

Having now fully set forth our invention, what we claim is—

1. In a coffee-mill, a burr-carrying spindle revolubly and vertically movable in fixed bearings, combined with a crank mounted upon a non cylindrical portion of said spindle and resting upon the upper of said bearings, a winged nut resting upon said crank and working upon the threaded end of said spindle, and a vertically-movable sleeve inclosing said nut and provided with internal grooves to receive the wings thereon and with notches in its lower margin to engage a projection upon said crank, whereby the sleeve normally engaging the crank and insuring simultaneous rotation of the crank, nut, and spindle may, when raised out of engagement with the crank, serve to rotate the nut alone and thus to adjust the spindle with its burr vertically.

2. In combination with the box of a coffee-

mill and a hopper fixed therein, a spindle-bearing located in the axis of said hopper at a point between its upper and lower limits and supported by integrally-formed arms secured to the box-top, and a horizontal disk formed integrally with said bearing and having its margin at a distance from the walls of the hopper somewhat more than the greatest diameter of an ordinary coffee-grain, all substantially as and for the purpose set forth.

3. In combination with a coffee-mill box and a hopper located therein and provided with a flange resting upon the box-top, a bar formed integrally with and extending diametrically across the bottom of said hopper, a second bar secured upon the top of said box at points outside of said flange and extending diametrically across and over said hopper, each of said bars being provided at its middle with a spindle-bearing adapted to receive a vertical spindle, and a sleeve concentric with said bearings extending from one to the other and adapted to transmit through the first-named bar to the hopper-flange the pressure exerted in forcing the second bar down and securing it upon the box-top.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

EDGAR H. MORGAN.  
CHARLES MORGAN.

Witnesses:

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J. A. CRAIN.