

No. 768,531.

PATENTED AUG. 23, 1904.

J. W. KIRBY.
COFFEE OR SPICE MILL.
APPLICATION FILED MAR. 18, 1904.

NO MODEL.

Fig. 1

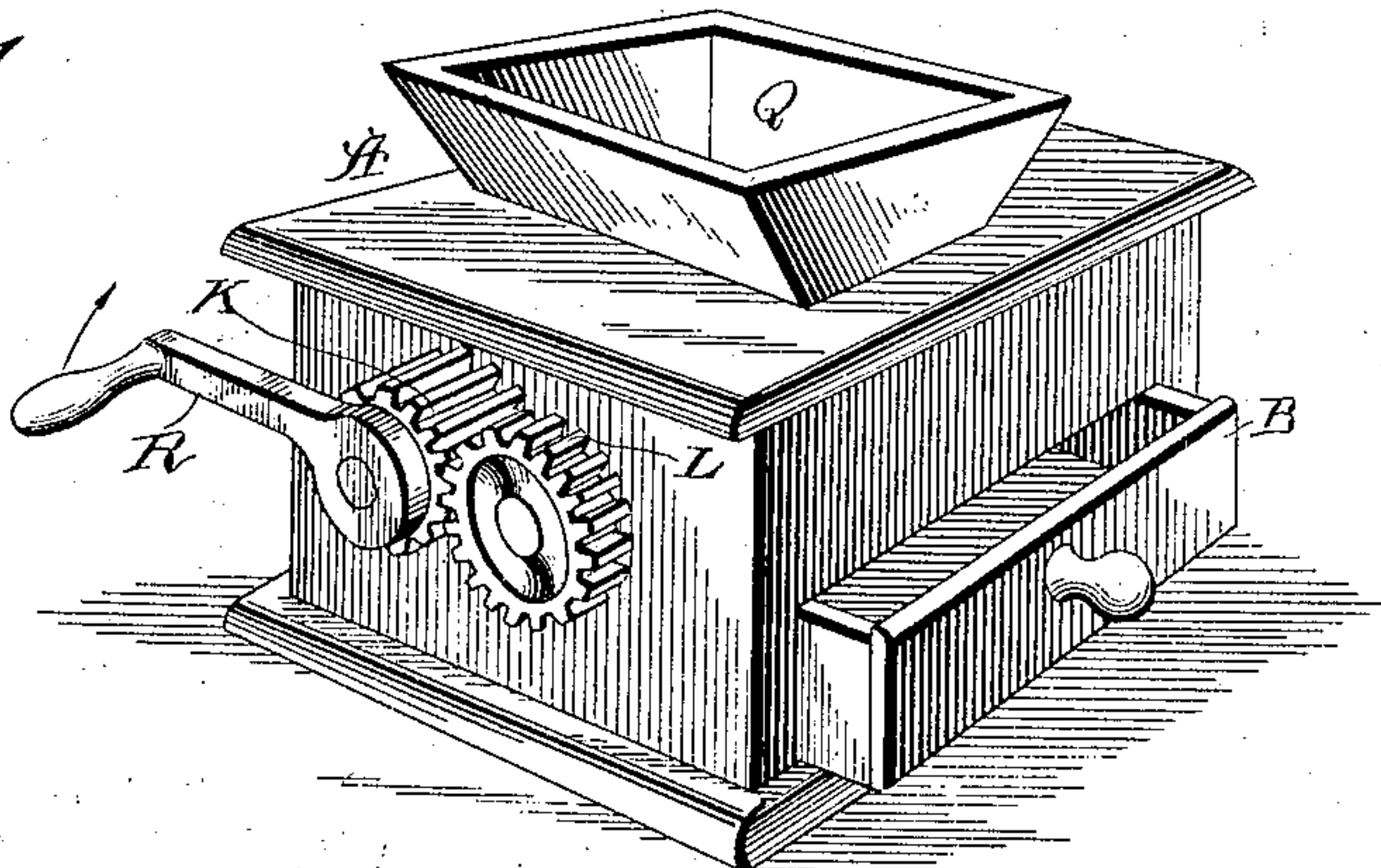


Fig. 2

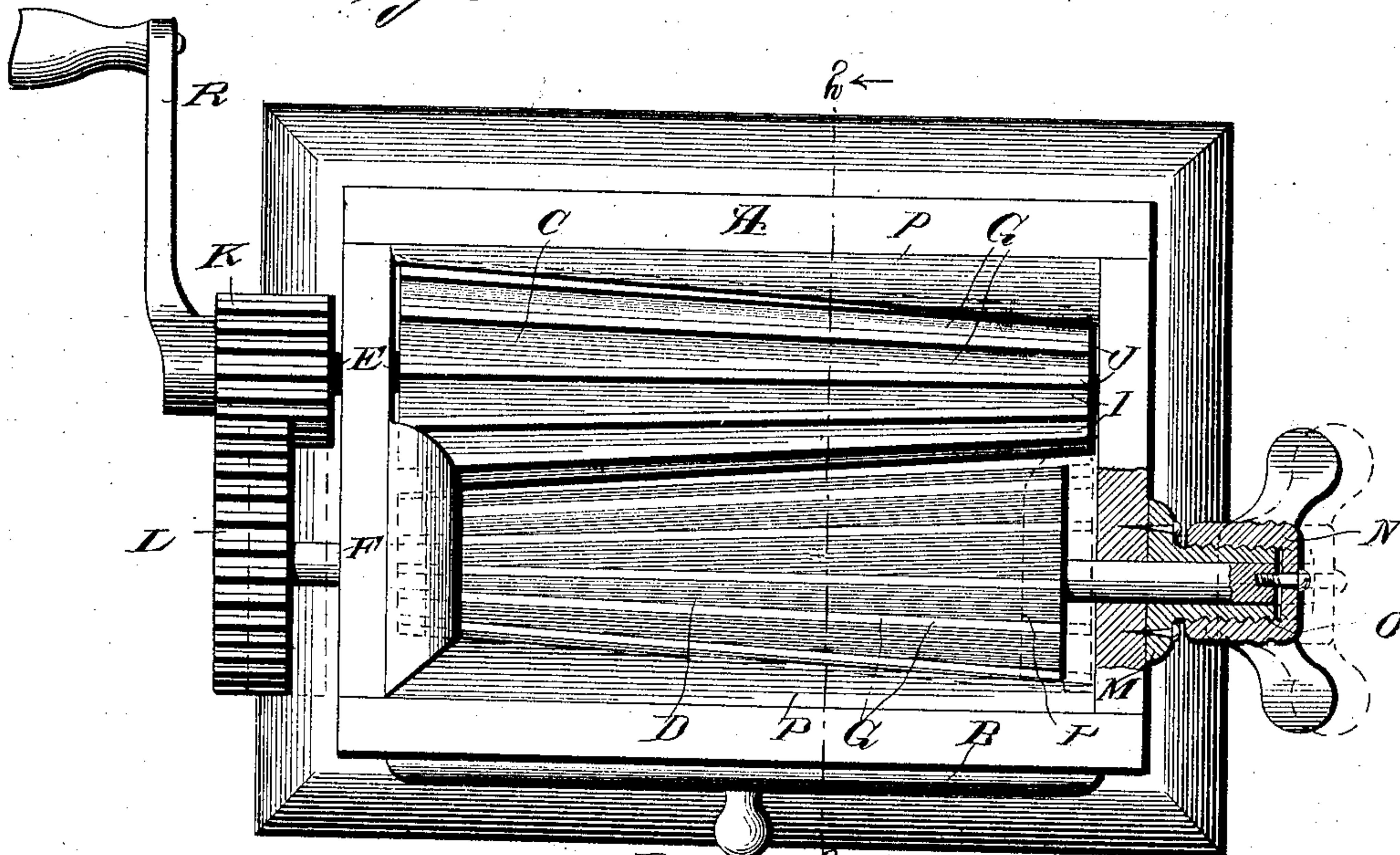
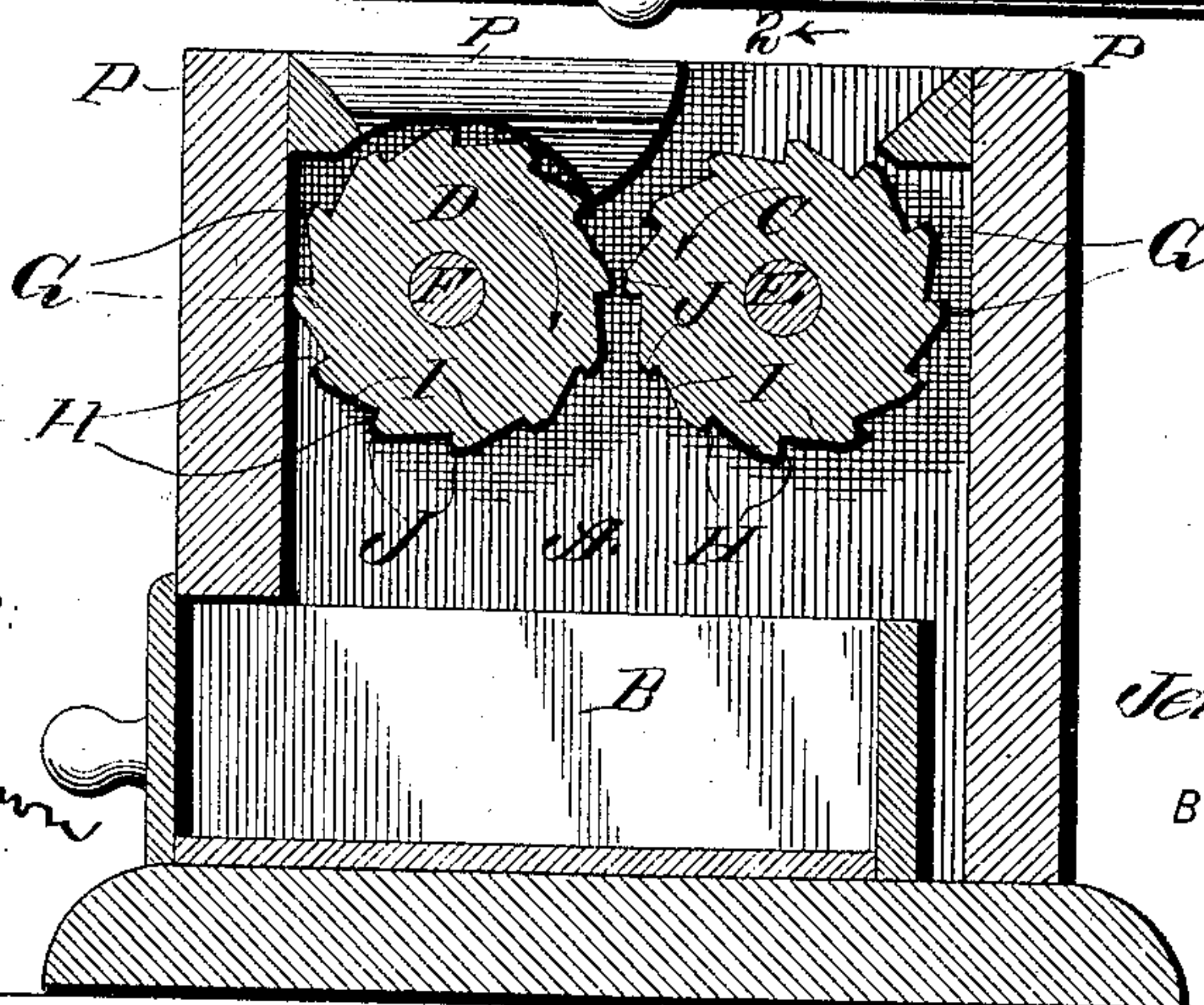


Fig. 3



WITNESSES:

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UNITED STATES PATENT OFFICE.

JERRY WILLIAM KIRBY, OF BUTTE, MONTANA, ASSIGNOR OF FIVE-EIGHTHS TO PELLEGRINA CAMPANA AND CLARENA HUDSON OLD, OF BUTTE, MONTANA.

COFFEE OR SPICE MILL.

SPECIFICATION forming part of Letters Patent No. 768,531, dated August 23, 1904.

Application filed March 18, 1904. Serial No. 198,703. (No model.)

To all whom it may concern:

Be it known that I, JERRY WILLIAM KIRBY, a citizen of the United States, residing at Butte, in the county of Silverbow and State of Montana, have invented a new and Improved Coffee or Spice Mill, of which the following is a specification.

The object of my invention is to provide a mill of the character stated which shall be adapted for grinding or pulverizing coffee and spices, the same to be not only simple in construction, but adapted for more thoroughly grinding or pulverizing than is possible with any similar mill known to me.

The invention consists of the special construction, arrangement, and combination of parts, which will hereinafter be fully described with reference to the accompanying drawings and the novel features thereof be pointed out in the claims.

In the drawings, Figure 1 is a perspective view illustrating my invention. Fig. 2 is an enlarged plan view, partly broken away and with the top of the box and hopper removed; and Fig. 3 is a transverse vertical sectional view taken on the line 3 3 of Fig. 2.

In the practice of my invention I employ a suitable box or case A, formed of wood, metal, or other material, having a drawer or other compartment B. In the box A, I arrange two conical rollers C D, having reduced ends forming journals E F therefor, projecting through the walls of the box, as shown. The rollers C D are constructed with parallel teeth G, extending lengthwise thereof, having an abrupt side H and an inclined side I, separated by a flat surface J. The angle formed by the said flat surface J and abrupt side H of the teeth provides the rollers with cutting or grinding edges, while the incline sides I serve for pulverizing.

It will be noticed that the conical rollers C D are arranged with their smaller ends reversed end for end and that the abrupt side H of the teeth G on one roller is located adjacent to the similar abrupt side of the teeth on the other roller.

The journals E F of the rollers C D are con-

nected by exterior gearing K L, the former of which is made wider and smaller or with less teeth than the latter, whereby the roller D is caused to rotate slower than the roller C, and when turning together, as indicated by the arrows, obviously the flat surfaces of the teeth on the roller C will operate with rubbing effect on the incline side of the teeth on the roller D, and thereby pulverize the material. At the same time the angle formed by the abrupt and flat surfaces of the teeth on both rollers will cut and grind according to the separating-space between the two rollers.

The roller C is made the full length of the space in the box A and has no adjustment—that is, endwise adjustment. The roller D is constructed shorter than the roller C and is made endwise adjustable for regulating the separating-space, and thereby gaging the degree of grinding or pulverizing of the material.

Adapting the roller D to be adjusted as stated I have arranged on the outside of the box A a suitable collar M, through which the journal F at the larger end of the roller D is extended.

On the extreme end of the journal F at the larger end of the roller D, I fixedly arrange a cap N, having interior screw-thread O. The collar M has similar but exterior screw-thread, whereupon the cap N may be screwed. Now obviously screwing action of the cap N on the collar M will draw with it the connected end of the journal, and thereby adjust the roller D endwise, adapted for fine or coarse grinding or pulverizing.

It will be noticed that the inner side of the box A is provided with ledges P, overlying the rollers C D. These ledges are intended for guiding the material being ground and at the same time serve for covering the open spaces between the rollers, particularly the roller D and the inner sides of the box A. A hopper Q is arranged on the box with its discharge-opening located to properly feed to the rollers, and power may be applied for rotating the rollers through means of a suitable crank R on one journal E of the roller C.

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

1. A grinding or pulverizing mill, consisting of a suitable box with a feeding-hopper, conical rollers arranged in the box in reverse position and having projecting journals, intermeshing small and large gears on said journals adapting one thereof to be rotated faster than the other, teeth on the rollers having an outer flat surface and an abrupt edge, means whereby power may be applied for rotating the rollers, one of the rollers being adapted for endwise adjustment, and means whereby the said adjustment may be effected, substantially as described.

2. A grinding and pulverizing mill consisting of a suitable box with a feeding-hopper, conical rollers arranged in the box in reverse

position, and having projecting journals, intermeshing small and large gears on said journals adapting one thereof to be rotated faster than the other, teeth on the rollers having an outer flat surface and an abrupt edge, means whereby power may be applied for rotating the rollers, one of the rollers being adapted for endwise adjustment, an exteriorly-screw-threaded collar fixedly secured to the outer side of the box, through which collar one journal of the adjustable roller is extended, an internally-screw-threaded cap on the end of the journal projecting through the said collar, and on which collar said cap has screw-thread adjustment, substantially as described.

JERRY WILLIAM KIRBY.

Witnesses:

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J. R. GRICE.