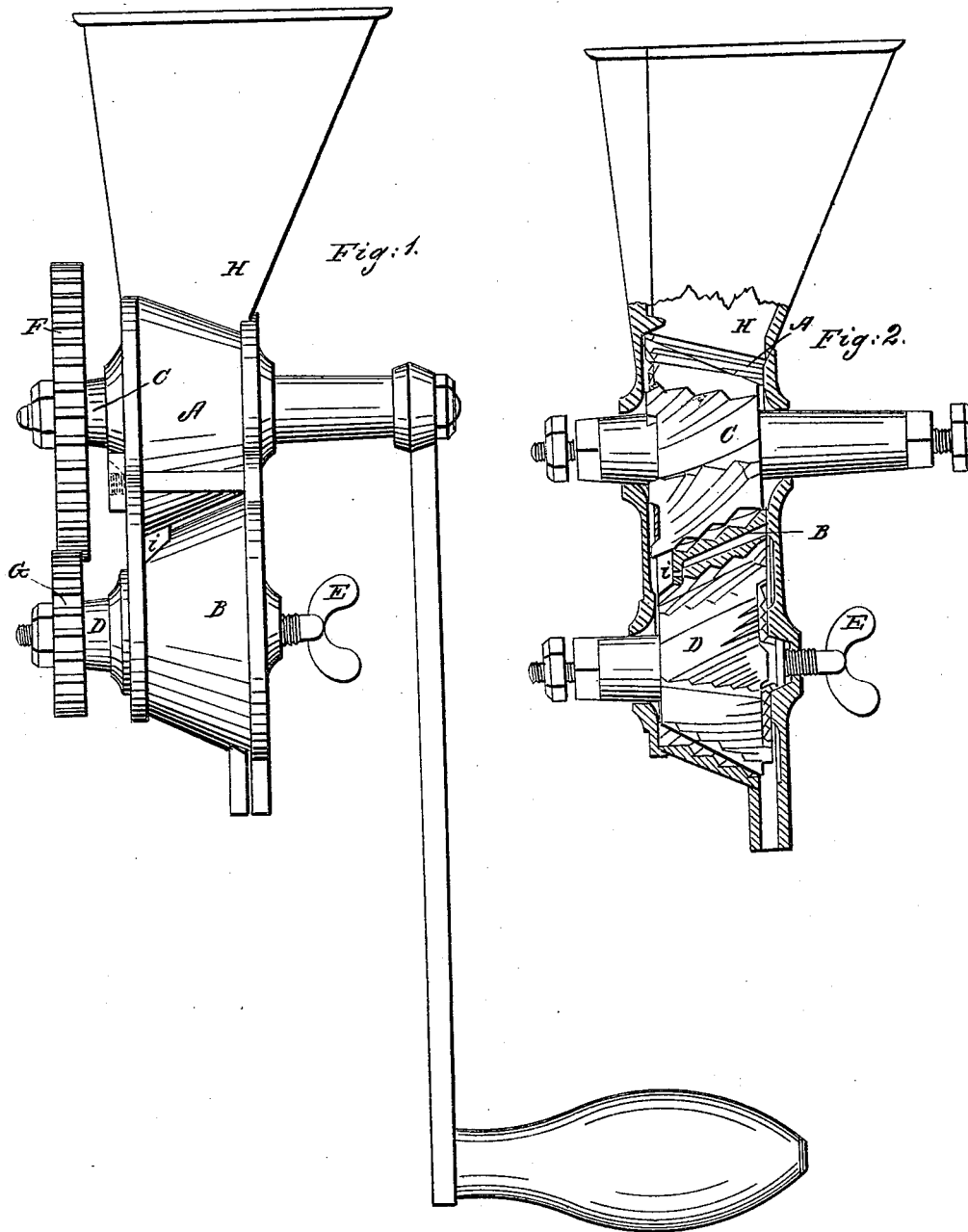


C. W. VAN VLEIT.

Coffee Mill.

No. 13,837.

Patented Nov. 20, 1855.



# UNITED STATES PATENT OFFICE.

C. W. VAN VLIET, OF FISHKILL LANDING, NEW YORK, ASSIGNOR TO CHARLES PARKER,  
OF MERIDEN, CONNECTICUT.

## MILL FOR GRINDING COFFEE, &c.

Specification of Letters Patent No. 13,837, dated November 20, 1855.

*To all whom it may concern:*

Be it known that I, CORNELIUS W. VAN VLIET, of Fishkill Landing, county of Dutchess, and State of New York, have  
5 made certain Improvements in Mills for Grinding Coffee, &c.; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being made to the annexed drawing, making  
10 a part of this specification, in which—

Figure I is a side view or elevation of my mill. Fig. II is a section thereof.

Similar letters refer to similar parts throughout.

15 My invention consists in certain improvements in the coffee mills intended for household use, by means of which improvements that mill is rendered capable of producing a result long desired but hitherto unattained  
20 by any one mill for the purpose.

It is probably well known that to make economically a perfect extract from parched and ground coffee, the particles must be of uniform size, since if otherwise,  
25 the time required for the desired infusion of the finer particles does not suffice to obtain all the virtues from the coarser, while if sufficient time be given to avoid that loss it is at the expense of delicacy of flavor,  
30 arising from over-infusion of the finely ground parts. To effect then a grinding of the desired character, I arrange compactly in one frame two sets of implements, the first of which shall act as a breaker or  
35 cracker only, and the second shall finish the operation. As a consequence of this construction my mill is also enabled to grind more rapidly with the same expenditure of power.

40 My mill is constructed as follows: I prepare a case having two conical grinding cavities or beds, grooved or cut in the usual manner, one cavity being placed directly  
45 over the other and the bases of each being on reversed or opposite sides. At A is represented the upper one, and at B the lower. At C and D are two appropriate grinders, also of the ordinary construction, turning upon proper shafts as shown. The upper  
50 grinder should rather be called a "cracker," as it is permanently set so coarsely as merely to break or crack up the coffee. The lower

grinder D however has an adjusting screw, as seen at E, whereby the set may be regulated to any degree for grinding to the  
55 requisite fineness. Motion is communicated from one shaft to the other by a wheel and pinion F, G of such comparative size that the speed of D is twice that of C, which is found to be generally correct for coffee. At  
60 H is the hopper.

In grinding coffee by my mill each grain is first subjected to the action of the cracker, and is thereby broken up very coarsely, being then discharged through the channel  
65 (i) to receive the action of the lower grinder D where it is reduced to the requisite degree of fineness and discharged as usual. Inasmuch as a larger quantity can pass through the cracker C at one revolution of  
70 its shaft, (by reason of the greater space left around,) than in the grinder, the latter must have an increased speed sufficient to compensate for the difference in their spaces and this is accordingly given by the gearing  
75 F G which as before stated produces two revolutions of D to one of C. Inasmuch also as the grains are reduced gradually instead of being broken down at once, as in the old mills, the power required for  
80 performing the same work is found to be much less, or rather with the same power twice the quantity of work is done. The principal advantages are derived, first, from the arrangement of the conical cracker C  
85 and conical grinder D in such a manner that their axes are parallel and horizontal, in the same vertical plane; 2dly, by such a reciprocal position of the cones, that the truncated face of each, be in the same vertical  
90 plane with the base of the other. 3dly, by casting the shell so as to envelop the cones by an indented surface, leaving a narrow outlet-channel at the greatest circumference of the upper cone and the  
95 smallest circumference of the lower cone and a similar channel at the lower portion of the greatest circumference of the grinding cone; carrying thus the coffee to be  
100 ground, when put into motion by the above described gearing, from the least to the greatest velocity, and submitting it to an increased grinding from its entrance into the mill, to its delivery.

What I claim as my invention and desire to secure by Letters Patent is—

The peculiar arrangement of the cracking and the grinding cones as herein described, and in combination therewith the passage  
5 leading from the largest circumference of the upper cone, to the smallest circumfer-

ence of the lower cone, substantially as set forth and for the purposes specified.

CORNELIUS W. VAN VLIET.

Witnesses:

J. P. PINSSON,  
S. H. MAYNARD.