

1 To all whom it may concern:

2 Be it known that Frank Bartz, of the city of Hornell,  
3 in the County of Steuben, and State of New York, United  
4 States of America, now deceased, having invented certain  
5 new and useful Improvements in Coffee Mills, for which  
6 The A. J. Deer Company, Incorporated, as assignee, has  
7 obtained patents in the United States, said patents be-  
8 ing numbered 959,250 and 959,251, and dated March 29th,  
9 1910; I, Flora B. Bartz, administratrix of the estate  
10 of the said Frank Bartz, do hereby declare that the fol-  
11 lowing is a full, clear and exact description of the  
12 same.

13 This invention is an improvement in coffee mills,  
14 and relates more especially to the particular dress of  
15 the grinding-disks between which the coffee beans are  
16 reduced, ground, or cut.

17 The primary object of the invention is to provide  
18 the faces of the cutting disks with intermeshing teeth  
19 of a shape to provide cutting edges so disposed that  
20 they will act to cut the beans rather than mash or break  
21 them, whereby the coffee beans may be reduced into very  
22 small particles without heating.

23 Other objects and advantages of the invention will  
24 hereinafter appear, and what is claimed as new and de-

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1 sired to be secured by Letters-Patent is fully set forth  
2 in the appended claims.

3 In the accompanying drawings, which form a part of  
4 this specification:-

5 Fig. 1 is a face view of the stationary grinding-  
6 disk, showing the particular arrangement of the teeth  
7 thereon;

8 Fig. 2 is a similar view of the rotary grinding-  
9 disk;

10 Fig. 3 is a sectional view through one side of the  
11 stationary grinding-disk, on the line 3-3 of Fig. 1,  
12 and including only those teeth next the section line;

13 Fig. 4 is a similar sectional view, on the line 4-4  
14 of Fig. 2;

15 Fig. 5 is a diagram view, showing an arrangement of  
16 the teeth in groups; and

17 Fig. 6 is a side view of one of the teeth.

18 Referring to the drawings, the numeral 7 designates  
19 the stationary grinding-disk of a coffee-mill, and 8 the  
20 rotary grinding-disk thereof, said disks being provided  
21 with projecting teeth of the construction and arrange-  
22 ment which shall now be described.

23 Each grinding-disk is provided with teeth 9, which  
24 project from the face of the disk and are arranged in  
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1 concentric rows, said teeth being pyramidal in shape, that  
2 is to say, each formed with walls which converge upward-  
3 ly to a point. In the present instance the front wall  
4 or face 10 of each tooth is at right angles to the face  
5 of the disk (see Fig. 8), and the V-shaped end (see Figs.  
6 3 and 4), provides the sharp cutting edges 11, 11.

7         The pyramidal teeth are arranged on the disks in  
8 concentric rows, so that the rows of teeth on one of the  
9 grinding-disks will intermesh with those on the other, and  
10 in the present instance the V-shaped cutting ends of the  
11 teeth are disposed on tangential lines, as a, b, c, and  
12 d, (Fig. 5), extending from circles near the center of  
13 the disk, the teeth on each disk being arranged in groups  
14 with the teeth of each group disposed on a plurality of  
15 tangential lines extending from a corresponding number of  
16 circles near the center of the disk.

17         It will be noted, by reference to Figs. 1 and 2,  
18 that the tangential lines of the groups on one disk are  
19 disposed with respect to the tangential lines of the  
20 groups on the other disk that when the disks are placed  
21 together in operation the tangential lines will cross  
22 so that the teeth of the disks will provide a shearing  
23 cut when one disk is turned upon the other. For the pur-  
24 pose of feeding the beans and cut particles towards the  
25 outer edges of the disks in the operation of the latter  
26 one of said disks, preferably the ~~rotary~~ disk stationary

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1 grinding-disk (Fig. 1.), is slightly concave, as indicat-  
2 ed in Fig. 3.

3       Teeth are removed from the disk 7, to provide stag-  
4 gered recesses, as 12, while the disk 8 is provided with  
5 straight recesses, 13, extending tangentially from the  
6 center to near the outer edge of the disk, in each in-  
7 stance the outer row of teeth being unbroken. These re-  
8 cesses provide for feeding the broken pieces of the cof-  
9 fee beans to the outer edges of the disks.

10       It will be readily understood that by the particular  
11 construction of the teeth, in connection with the pecu-  
12 liar arrangement in groups on tangential lines, the  
13 teeth of the two grinding-disks in operation make a shear  
14 ing out so as to reduce the coffee beans into very small  
15 particles by cutting rather than mashing, thus preventing  
16 the heating of the particles, as is usual with the or-  
17 dinary forms of grinders.

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Fig. 1.

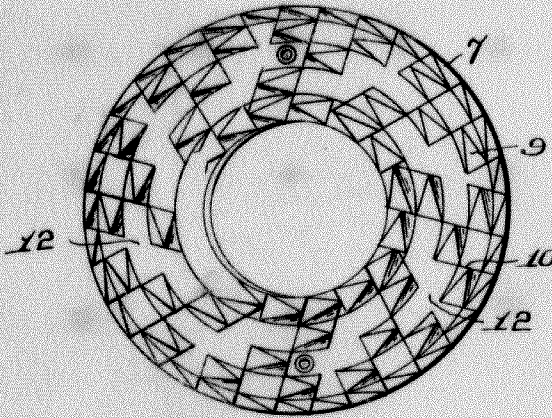


Fig. 2.

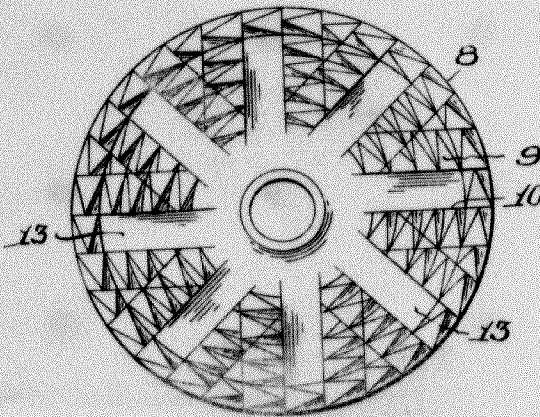


Fig. 3.

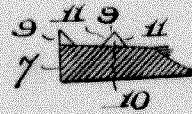


Fig. 4.

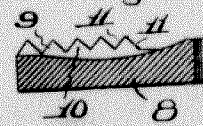


Fig. 5.

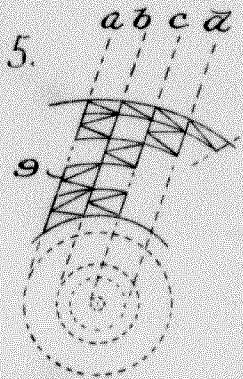


Fig. 6.



Witnesses:

D. R. Henshey,

R. J. Bruce

Certified to be the drawing referred to in the specification hereto annexed.  
Washington, D.C., June 25, 1910.

Frank Bartz,  
Inventor.

Flora B. Bartz,  
Administratrix,

By J. M. Thomas & Co.,  
Attys.