(12) **United States Patent**
Adams

(10) **Patent No.: X9316**
(45) **Date of Patent: Jan. 13, 1836**

(54) **HULLING COFFEE BERRY**

(76) Inventor: **Isaac Adams**

Isaac Adams of Boston Mass.
Letters Patent

The schedule referred to in these Letters Patent, and making part of the same containing a description in the words of the said Isaac Adams, himself of his improvement in machinery for breaking or cracking in place the husks of the coffee berry.

Be all persons to whom these presents shall come, Isaac Adams of Boston in the County of Suffolk and State of Massachusetts made speaking.

Be it known, that I the said Isaac Adams, have invented, made, and applied to use, new useful improvements of machinery for breaking or cracking in place the husks of the coffee berry, which improvements I have fully set forth & described in the following words and drawings annexed which taken together form my specification.

Fig. 1 represents the machinery I have contemplated for the first mode of operation which consists of a circular cast iron plate A having suitable grooves or projections cast formed on its upper surface, and which is supported on a suitable frame work of timber or cast iron or other proper material shaped as shown in the drawing or otherwise properly constructed, so as to answer the intended purpose of supporting the said plate and machinery connected to it over the plate A is a second plate B whose under surface is grooved or covered with castails both similar to the plate A. Through the centre of the plate B an upright shaft C is placed and is secured by wedges or otherwise to the plate B. The lower extremity of the shaft C is supported and turns in a step or box attached to the horizontal part C' of the frame. E is a bevil wheel on the shaft C which is made to turn round by a bevil wheel C on the end of a horizontal shaft H on which other extremity is a handle, pulley or other contrivance for giving motion to the said shaft H.

The berries being put in the hopper I pass downward between the plates A B and motion being given to the plate B as it revolves it cracks or breaks open the husks of the coffee which are afterwards separated from or made by the process of winnowing.

The upper plate B may be raised above or let at any convenient distance from the lower plate A by means of a screw acting on the bottom of the box or step in which the foot of the vertical shaft C rests & turns.

The object of the above change in the distance of the plates from each other is to accommodate the machinery to operate on the different kinds of coffee - the berries

being quite different as to size in the different countries where produced — .. —

Instead of the grinding surfaces being circular planes, the lower A. may be crowned in the centre, or may be bell shaped or slightly conical, or otherwise properly formed for the purpose, and the upper B. may be made concave, to correspond to any convexity of the lower plate, so as to facilitate the operation of breaking or cracking in pieces the husks from around the seeds. In my second construction of the apparatus, the frame work and the lower plate A. are in all respects similar to that first mentioned, but instead of an upper plate of iron as heretofore described, I connect to the top of the vertical shaft (fig. 2) the ends of a series of arms which radiate outward and terminate at their opposite extremities in a ring a, these arms may be of cast or wrought iron or other suitable material. To each of the arms are attached the ends of springs of steel bbb &c. (as seen in the drawing) all at proper distances asunder.

The holes are bored in the ends of the said springs into which the ends of small cast fluted rollers c.c.c.c.&c. are inserted. The rollers on one of the arms are all at suitable distances from each other, while those on the arm next contiguous are so placed as to be opposite the places between the rollers on the arm first mentioned, and soon throughout the series. By this arrangement every part of the surface of the lower plate A. is brought in contact with the surfaces of the small rollers during the revolution of the arms. On the opposite side of the arms on which are the springs bbb &c. supporting the fluted rollers c.c.c.&c. I attach by means of hinges d.d.d.d.&c. plates e.e.e.e.&c. of cast iron or other proper material suitably formed or grooved on the under surface or having projecting teeth thereon to be acted on and pressed downward by springs f.f.f.f.&c. The object of springs supporting the small rollers, plates c.c.c.&c. is, that when a berry of coffee is presented between the lower plate and one of the rollers, or plates c.c.c. the force tending to crush or crack the entire husk may be relieved by the springs so as not to break in pieces the seed or kernel of the coffee. The whole top and sides of the machine may be inclosed in a proper casing of wood or other suitable material and surmounted by a hopper. To the arms may be attached any convenient number of rollers, and the whole may be constructed of such suitable size, form, and material as shall best answer the intended purpose —

What I claim is, The invention & use of the lower plate or surface of cast iron or other suitable metal with furrows or projecting teeth on it, shaped & formed in the different ways heretofore described, to operate with an upper plate or surface or series of arms,

fluted rollers and plates, or any other machinery which may be attached to it ... And I also claim a series of radial arms, having attached to them a series of springs, plates, and rollers, as above described, to be used in connection with a convex surface, as hereinbefore mentioned, for the purpose of breaking or cracking the outer husks of the coffee berry.

In testimony that the above is a true specification of my said invention & improvements, I have hereunto set my hand this eleventh day of December, in the year of our Lord eighteen hundred and thirty-four.

Witnesses:
Robt. H. Eddy
Thomas Salem

Isaac Adams

I. ADAMS.

MACHINE FOR BREAKING THE HUSKS OF COFFEE BERRIES.

Patented Jan. 13, 1835.



