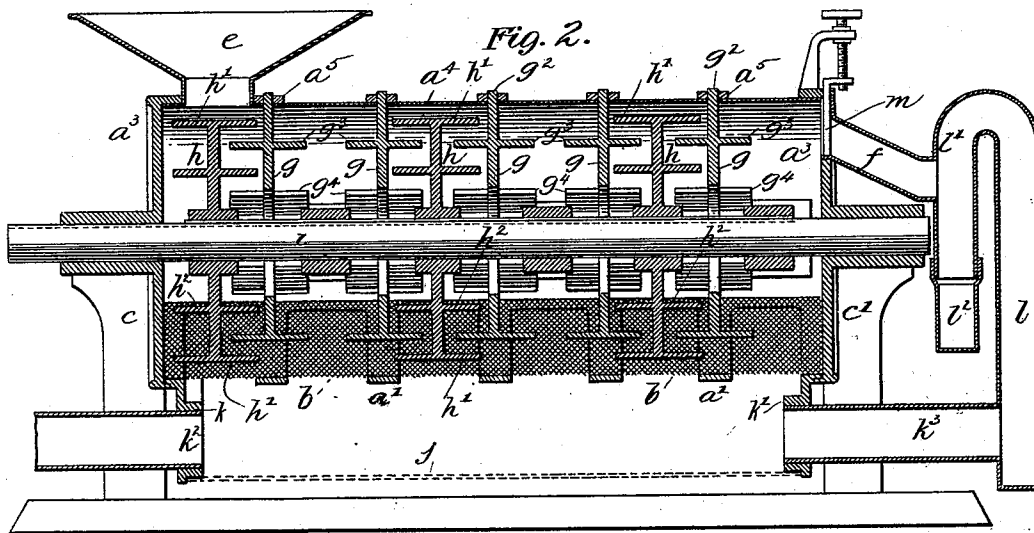
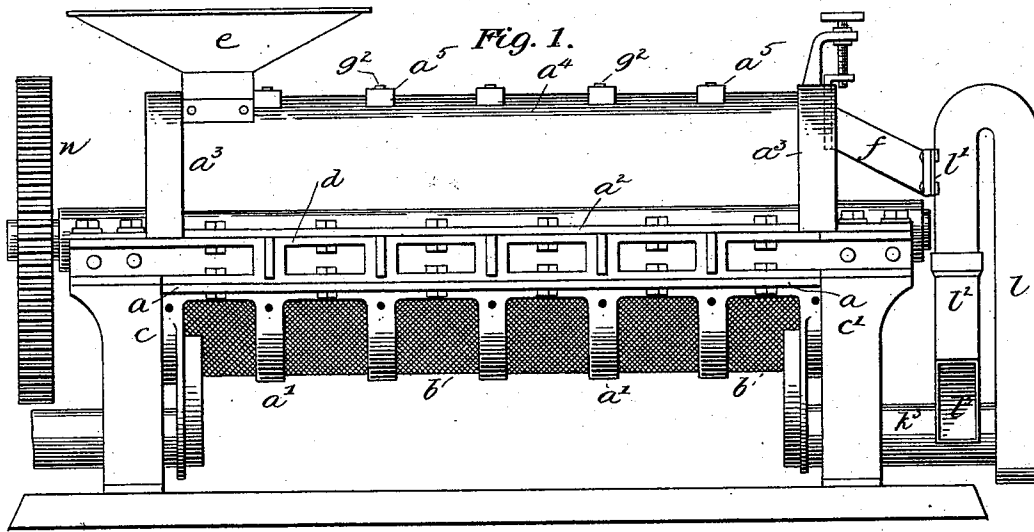


M. MASON.
MACHINE FOR POLISHING COFFEE.

No. 536,436.

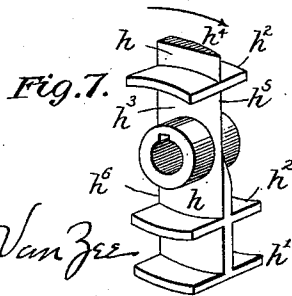
Patented Mar. 26, 1895.



WITNESSES:

Frank S. Ober.

Alfred W. Van Zee.



INVENTOR

Marcus Mason

BY
Baldwin, Davidson & Wright
ATTORNEYS.

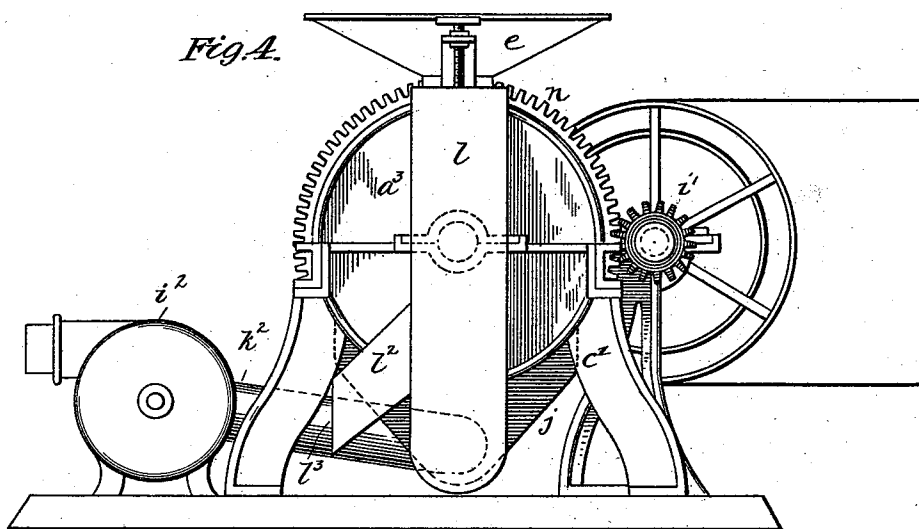
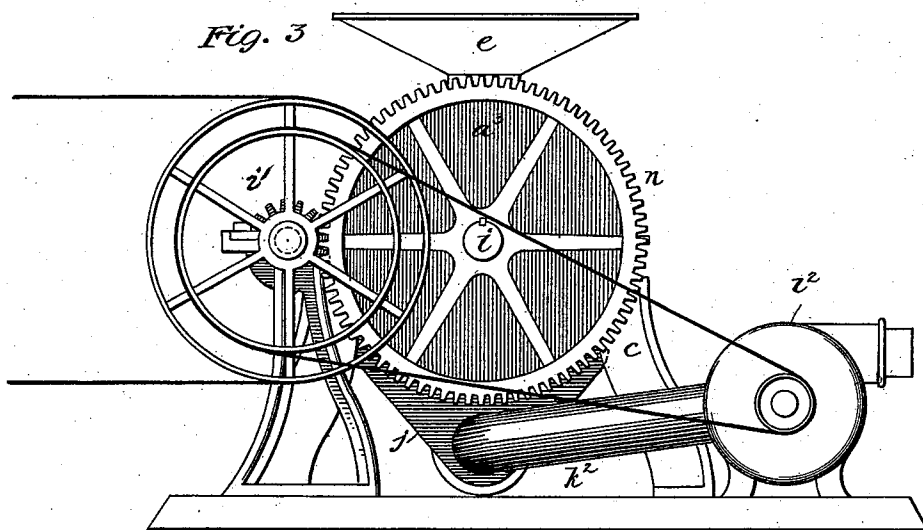
(No Model.)

3 Sheets—Sheet 2.

M. MASON.
MACHINE FOR POLISHING COFFEE.

No. 536,436.

Patented Mar. 26, 1895.



WITNESSES:

Frank S. Ober.

Alfred W. Van Zee.

INVENTOR

Marcus Mason

BY

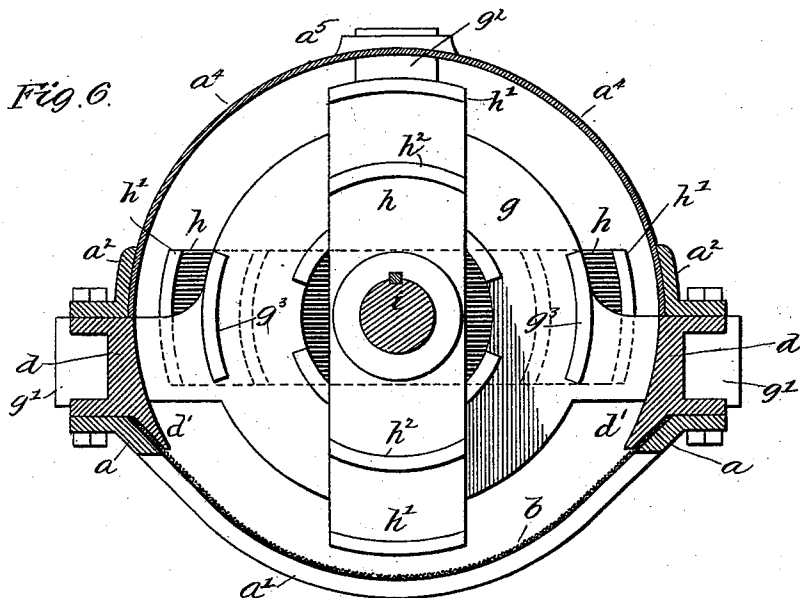
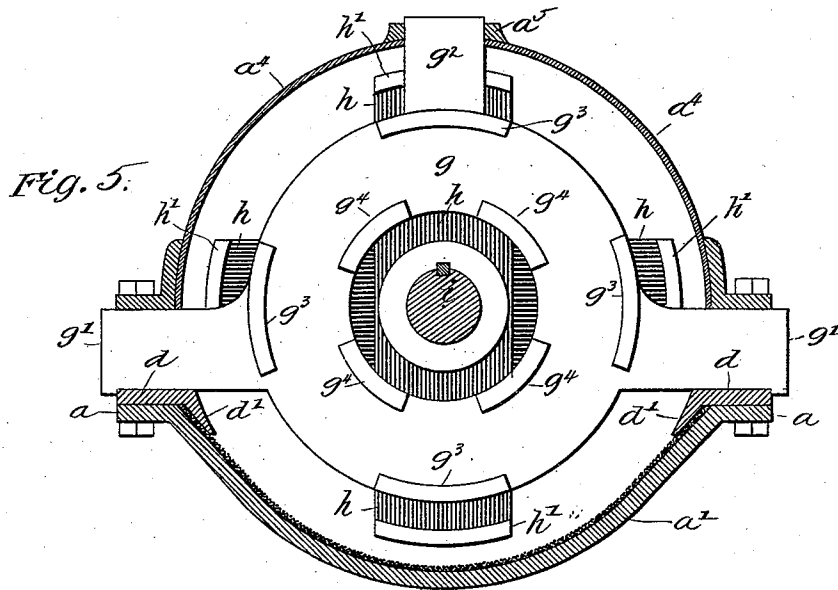
Baldwin, Davidson & Wright

ATTORNEYS.

M. MASON.
MACHINE FOR POLISHING COFFEE.

No. 536,436.

Patented Mar. 26, 1895.



WITNESSES:

Frank L. Ober

Alfred W. Van Zee.

INVENTOR

Marcus Mason

BY

Baldwin Davidson & Wright

ATTORNEYS.

UNITED STATES PATENT OFFICE.

MARCUS MASON, OF NEW YORK, N. Y., ASSIGNOR TO MARCUS MASON & CO.,
OF SAME PLACE.

MACHINE FOR POLISHING COFFEE.

SPECIFICATION forming part of Letters Patent No. 536,436, dated March 26, 1895.

Application filed September 25, 1893. Serial No. 486,443. (No model.)

To all whom it may concern:

Be it known that I, MARCUS MASON, a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful improvements in Machines for Polishing Coffee, of which the following is a specification.

My invention relates to coffee polishing machines, and consists mainly in improvements in the construction of that class of such and allied machines in which the grain or seed is forced through a horizontally arranged drum, and subjected in its transit therethrough to a rubbing action between rotating and stationary surfaces.

The main features of construction insure a more direct and positive draft of air through the coffee being acted upon, and admit of the machine being readily taken apart for examination or for renewal of any part that may have become injured, and to fully explain the same I will refer to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved coffee polisher with the covering of the dust chamber removed. Fig. 2 is a central longitudinal section of the same. Fig. 3 is a view of the front end showing the driving gear and exhaust fan. Fig. 4 is a rear end view. Fig. 5 is a transverse section of the drum through the line $x x$, showing one of the stationary rubbing plates, and Fig. 6 is a similar section on the line $y y$, showing one of the revolving rubbing arms or blades. Fig. 7 is a perspective view of the rotating arms or blades.

The lower half of the drum is a skeleton frame, comprising two longitudinal flanged bars $a a$ connected together by the cylindrical bands $a' a'$ and in which is placed the wire screen b .

The main supporting part of the machine consists of the end standards c and c' shaped to form the lower halves of the ends of the drum, and the longitudinal girders $d d$ bolted to and connecting the standards c and c' together and to the lower sides of which the lower half $a a'$ of the drum is fastened by means of bolts passing through the flanges of the longitudinal bars $a a$, as shown in Fig. 1.

The wire screen $b b$, is held in place by its edges being clamped between the bars $a a$ and the internal downwardly extending flanges $d' d'$ of the girders $d d$, as shown in Figs. 5 and 6.

The upper half of the drum is a cast metal skeleton frame comprising the two longitudinal flanged bars $a^2 a^2$ and the end pieces of the upper part of the drum $a^3 a^3$, to which frame is secured the semi-cylindrical piece of sheet metal a^4 , thus tightly closing the whole of the upper part of the drum, with the exception of an opening at one end of the sheet metal to which the feeding hopper e is secured, and a discharge opening in the upper part of the head at the other end of the machine to which the discharge pipe f is attached. The upper half of the drum is also secured to the girders $d d$ by bolts passing through the flanges of the parts $a^2 a^2$. Located at intervals in the drum are the stationary plates $g g$ which are held centrally therein by the horizontal flat arms or projections $g' g'$ arranged to fit in transverse grooves formed in the girders $d d$ and by the vertical flat arms g^2 which fit through slots in the sheet metal a^4 of the drum and through slotted reinforce pieces $a^5 a^5$, united or otherwise fastened to the sheet metal a^4 . The stationary plates are practically flat rings of considerable less outside diameter than the interior of the drum, the flat arms $g' g'$ and g^2 , being the only obstructions in the annular spaces between the plates and the drum. From the sides of these plates $g g$ project curved pieces g^3 and g^4 , the outer surfaces of the pieces g^3 being a continuation of the outer edge of the plates, and the inner surfaces of the pieces g^4 being a continuation of the edge of the central circular openings. Between the ends of the curvilinear pieces g^3 and g^4 on the opposing sides of adjacent plates $g g$ the flat arms $h h$ rotate, said arms project from hubs which are keyed on the shaft i arranged centrally in the drum and having bearings in the end standards c and c' . These arms $h h$ are provided on each side with two curvilinear projections $h' h^2$, the outer ones $h' h'$ being arranged to rotate between the pieces $g^3 g^3$ and the inner surface of the drum, and the inner projections $h^2 h^2$

being arranged to rotate between the pieces g^3 and g^4 , so that the grains of coffee are thoroughly acted upon and rubbed together as they pass from the feeding to the discharging
 5 end of the drum, their motion through the drum being caused by the leading faces of the arms h h being inclined forward in the direction of their motion of rotation. This is seen in Fig. 7 where the rear face h^3 of the
 10 upper arm is flat and in a plane at right angles to the axis of rotation, while the leading face h^4 is inclined so that the forward edge h^5 is of reduced thickness. The opposite or
 15 lower arm has its leading face similarly inclined but in an opposite direction so that the edge h^6 is the thinner one.

The lower part of the drum, and all of the exposed surface of the wire screen b , are inclosed in a dust chamber formed of sheet
 20 metal covering j secured to the skeleton frame a a' , and to the end pieces k k' . The end piece k is connected to an exhaust fan by means of a pipe fitted to the opening k^2 , and the end piece k' is connected to the pipe k^3 ,
 25 which is joined to the stand pipe l . This pipe l has a full bend at its upper end and from this bend the pipe l' extends downwardly between the pipe l and the rear end of the drum, the lower end of the pipe l' being provided
 30 with the elbow l^2 and discharge spout l^3 so formed as to be adapted to be set to bring the spout on either side of the machine, as desired.

The discharge opening in the upper side of the end of the cylinder is connected to the
 35 pipe l' by the pipe f and this opening is provided with a gate m , by the adjustment of which the flow or movement of the coffee through the machine is regulated.

n represents a gear wheel secured to the end of the central shaft i . Any suitable arrangement of gear or driving device may be used as shown at i' Fig. 3, to impart rotary
 40 motion to the shaft i , and any suitable exhaust fan v^2 may be connected to the dirt chamber under the screen b .

In operation the drum is practically full of coffee, which being acted upon by the rotating arms h is gradually moved to the discharge end of the cylinder and passes therefrom through the pipe f and down the pipe l' . The exhaust fan at the same time draws air
 50 down the hopper opening e , through the coffee contained in the drum, and into the dirt chamber carrying the dirt and dust with it through the screen b , and also into the dirt
 55 chamber through the discharge spout l^3 , and pipes l' , l and k^3 . The coffee falling down the pipe l' through the upward current of air is freed of all dirt and dust as well as being cooled.

The excessive heating of the coffee is by the peculiar construction of the drum prevented. As all the air which passes through
 65 the hopper, that being the main inlet for it, some may pass through the outlet, and is dis-

tributed throughout the drum and surrounds the grains of coffee therein in its passage to the dirt chamber through the wire screen b .

Either the upper or lower half of the drum
 70 may be removed without disturbing the other or main frame of the machine, for cleaning or repairing purposes. The removal of the top half exposes all of the interior for examination, and leaves the stationary plates free,
 75 so that repairs, &c., may be quickly and readily made with but little trouble.

I claim as my invention—

1. In a coffee polisher, the combination of a horizontal drum, having a feed opening at
 80 one end and a discharge opening at the other end, a central shaft fitted to rotate therein, stationary plates or flat rings arranged transversely in the drum, their outside diameters being less than the internal diameter of the
 85 drum, and their inside diameters greater than the shaft, flat arms or blades, fitted on the shaft between the stationary rings and having their leading faces inclined in the direction of rotation, and means for rotating
 90 the shaft.

2. In a coffee polisher, the combination of a horizontal drum, having a feed opening at one end and a discharge opening at the other end, a central shaft fitted to rotate therein,
 95 stationary plates or flat rings having curvilinear side projections, arranged transversely in the drum, their outside diameters being less than the internal diameter of the drum and their inside diameters greater than the
 100 shaft, flat arms or blades having curvilinear side projections fitted on the shaft between the stationary rings and having their leading faces inclined in the direction of rotation, and means for rotating the shaft.
 105

3. In a coffee polisher drum, the combination of the end standards, two longitudinal girders provided with transverse grooves and connected at their ends to the standards, a semi-cylindrical casing having slots through
 110 its upper side and secured to the upper sides of the girders, a semi-cylindrical frame and screen secured to the lower sides of the girders, and plates provided with flat arms adapted to fit in the grooves of the girder and the slots
 115 of the casing whereby said plates are centrally held.

4. In a coffee polisher drum, the combination of the end standards, two longitudinal girders provided with transverse grooves and
 120 connected at their ends to the standards, a semi-cylindrical casing having slots through its upper side and secured to the upper sides of the girders, a semi-cylindrical frame and screen secured to the lower sides of the gir-
 125 ders, plates provided with flat arms adapted to fit in the grooves of the girders and the slots of the casing whereby said plates are centrally held, a central shaft having bearings in the standards, and flat arms or blades secured
 130 to the shaft.

5. The combination of the standards c c' ,

the transversely grooved girders $d d$, the skeleton frame $a^2 a^2$, and a semi-cylindrical piece of sheet metal a^4 , the skeleton frame $a a'$ and screen b , and the plates $g g$ having the flat arms $g' g' g^2$ and side projections $g^3 g^4$.

6. The combination of the standards $c c'$, the transversely grooved girders $d d$, the skeleton frame $a^2 a^2$, and a semi-cylindrical piece of sheet metal a^4 , the skeleton frame $a a'$ and screen b , and the plates $g g$ having the flat arms $g' g' g^2$ and side projections $g^3 g^4$, the shaft i , and the arms or blades $h h$ having the side projections $h' h^2$.

7. The combination with the drum of a coffee polisher having its lower part provided with a screen and its imperforate upper part with a feed opening at one end, and a discharge opening at its other end, of a dirt chamber composed of the end pieces $k k'$, and a covering j , inclosing the lower half of the drum only the exhaust fan i^2 , connected to the opening k^2 of end piece k' , the coffee discharge spout l^3 , connected by the pipes l, l', l^2 and k^3 to the other end piece k' , and the pipe f connecting the discharge opening of the drum to the pipe l' ; whereby air is drawn through the grain in the drum by entering the feed opening and leaving the same through

the lower half of the drum only and drawn through the discharge spout against the flow of grain issuing therefrom.

8. The combination with the drum of a coffee polisher having its lower part provided with a screen and its imperforate upper part with a feed opening at one end, and a discharge opening at its other end, of a dirt chamber composed of the end pieces $k k'$, and covering j , inclosing the lower half of the drum only the exhaust fan i^2 , connected to the opening k^2 of end piece k' , the coffee discharge spout l^3 , connected by the pipes l, l', l^2 and k^3 to the other end piece k' , the pipe f connecting the discharge opening of the drum to the pipe l' , and the regulating gate m , whereby air is drawn through the grain in the drum by entering the feed opening and leaving the same through the lower half of the drum only and drawn through the discharge spout against the flow of grain issuing therefrom.

In testimony whereof, I have hereunto subscribed my name.

MARCUS MASON.

Witnesses:

W. W. BOUGHTON,
H. P. PRESCOTT.