

(No Model.)

A. D'C. GOMEZ.
MACHINE FOR HULLING COFFEE BERRIES.

No. 567,467.

Patented Sept. 8, 1896.

Fig. 1

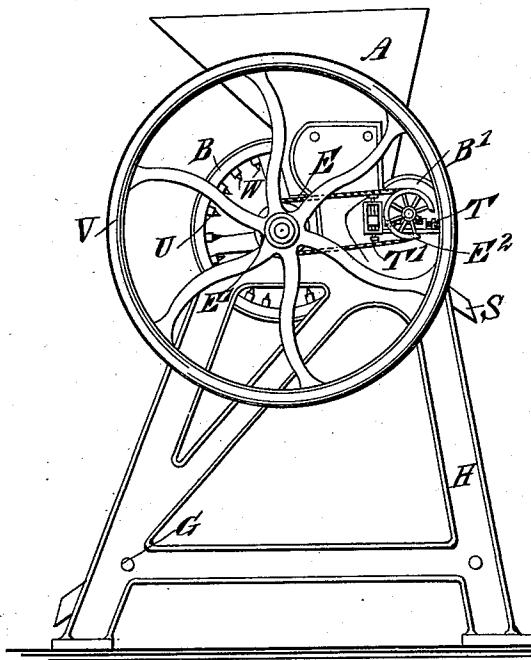


Fig. 2

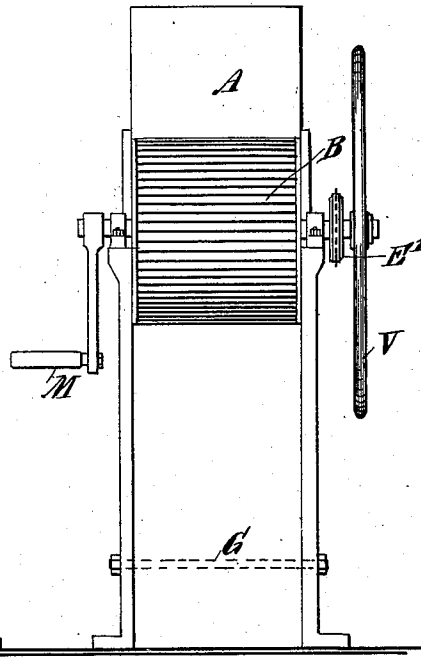
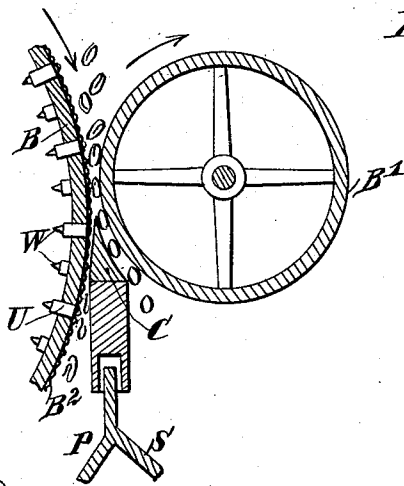


Fig. 3



WITNESSES:

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ALFREDO D'COSTA GOMEZ, OF BUCARAMANGA, COLOMBIA.

MACHINE FOR HULLING COFFEE-BERRIES.

SPECIFICATION forming part of Letters Patent No. 567,467, dated September 8, 1896.

Application filed December 10, 1895. Serial No. 571,695. (No model.)

To all whom it may concern:

Be it known that I, ALFREDO D'COSTA GOMEZ, of Bucaramanga, Republic of Colombia, South America, have invented a new and
5 Improved Machine for Hulling Coffee-Berries, of which the following is a full, clear, and exact description.

My invention relates to machines for separating coffee-grains from their hulls, and has
10 for its object to achieve the above-indicated operation thoroughly and with a small expenditure of time and energy.

The invention consists in the construction and combination of parts, as hereinafter fully
15 described, and pointed out in the claims.

Figure 1 is a side elevation of my improved machine. Fig. 2 is an end elevation thereof, and Fig. 3 is a broken detail sectional elevation of the crushing and separating mechanism.
20 anism.

The machine comprises standards H, connected by bolts G, and in these standards are journaled hollow iron cylinders B and B', which are of different diameters, one of them
25 being about half the diameter of the other. The length of the cylinders is the same and is equal to the distance between the standards H H. The larger cylinder is provided with longitudinal grooves spaced at a distance
30 of about two millimeters, thereby forming a rough surface, as hereinafter mentioned. If it is desired, these grooves, instead of being parallel to the axis, may be oblique. Instead of producing the grooves in the surface
35 of the cylinder proper I may secure upon the cylinder a shell of sheet metal B², having a number of knobs projecting on its surface, and thereby forming a rough surface, for the purpose described. These knobs may be
40 grooved longitudinally, thereby increasing the roughness of the surface. In order to line the cylinder with the said shell, the cylinder is perforated at various points and wooden
45 pegs U are inserted in the said openings and cut level with the surface of the cylinder. The shell is then secured by means of nails or tacks W, inserted in the plugs. The longitudinal edges of the shell are soldered together. Another way of producing a rough
50 ened surface would be to provide a smooth shell and perforate the same, thereafter inserting in the openings metallic pins whose

heads will project from the shell and whose inner ends would be screw-threaded and pass through the cylinder to receive nuts on the inner side thereof. In this case also the roughness of the surface might be increased by grooving the heads of the pins. The small cylinder B' is preferably smooth on its outer surface, although a rough surface might be used, but in this case the results will not be so good. Both cylinders are placed substantially parallel or tangentially to each other at their adjacent or active portions and are spaced to form a passage-way for the berries. The distance between the cylinders may be varied by means of adjusting-screws T T to correspond to the size of the berries. The cylinders are driven by means of a crank-handle M on the shaft of the larger cylinder, and a sprocket-chain E connects the sprocket-wheels E' and E² on the shafts of the large and the small cylinder, respectively. A fly-wheel V may also be provided on the shaft of the large cylinder. It will be understood that owing to this connection the cylinders B and B' will be rotated so that their adjacent portions move in opposite directions, and the cylinder B, owing to its greater diameter, will have a greater peripheral speed than the cylinder B'. Below the adjacent or active portions of the cylinders B and B' and extending substantially in the common tangential plane of the said cylinders is located a separator C, which is in the nature of a knife having its edge directed upwardly, and which may be likewise adjusted by means of set-screws T'. A is a hopper arranged above the cylinders B and B' and divided into two compartments by means of a suitable partition. P and S are chutes or outlets at the bottom of the machine, which extend on opposite sides of the separator C.

In operation the berries are fed into the hopper A, and simultaneously a stream of water is allowed to fall into the said hopper, so as to keep the berries in motion. When the berries are between the cylinders B and B', they are subjected to a crushing or squeezing action, and the hull being of a fibrous nature it has a tendency to adhere to the rough surface of the large cylinder, while the grains go toward the small cylinder. Separation is completed by the knife C below the cylinders

and the hulls escape through the chute P, while the grains are received at the outlet S. In case no adequate supply of water is available, I may employ an eccentric on one of the gear-wheels and provide a reciprocating rod within the hopper to stir the coffee-berries, the said reciprocating rod being connected with the eccentric-rod by means of an elbow-lever. As the edge of the separating-knife should be in the same horizontal plane with the axis of the large cylinder, it is necessary that the center or axis of the small cylinder should be slightly above the said plane.

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

1. In a machine for hulling coffee-berries, the combination of two rollers of unequal size rotating in opposite directions and at different rates of speed, the larger roller being roughened and the smaller one smooth, and a separator projecting upwardly between the said rollers, said separator being in the nature of a knife and serving to separate the grains and hulls substantially as described.

2. In a machine for hulling coffee-berries, the combination of two rollers of unequal

size and rotating in opposite directions, the larger roller being roughened and the smaller one smooth, the said smaller roller having its axis above the axis of the larger roller, and a separator projecting upwardly between the said rollers with its edge in the same horizontal plane with the axis of the larger roller, said separator being in the nature of a knife and serving to separate the grains and hulls substantially as described.

3. In a machine for hulling coffee-berries, the combination with a supporting-frame, of two rollers of unequal size mounted therein, the larger roller having a roughened surface, and the smaller roller being smooth, the said smaller roller having its axis above the axis of the larger roller, sprocket-wheels on the shafts of the rollers, a sprocket-chain passing around said sprocket-wheels, means for operating the larger roller, and an adjustable separator in the nature of a knife and projecting between the rollers with its upper edge in the same plane with the axis of the larger roller, substantially as described.

ALFREDO D'COSTA GOMEZ.

Witnesses:

RICARDO WILSON,
FEDERICO HEDERICK.