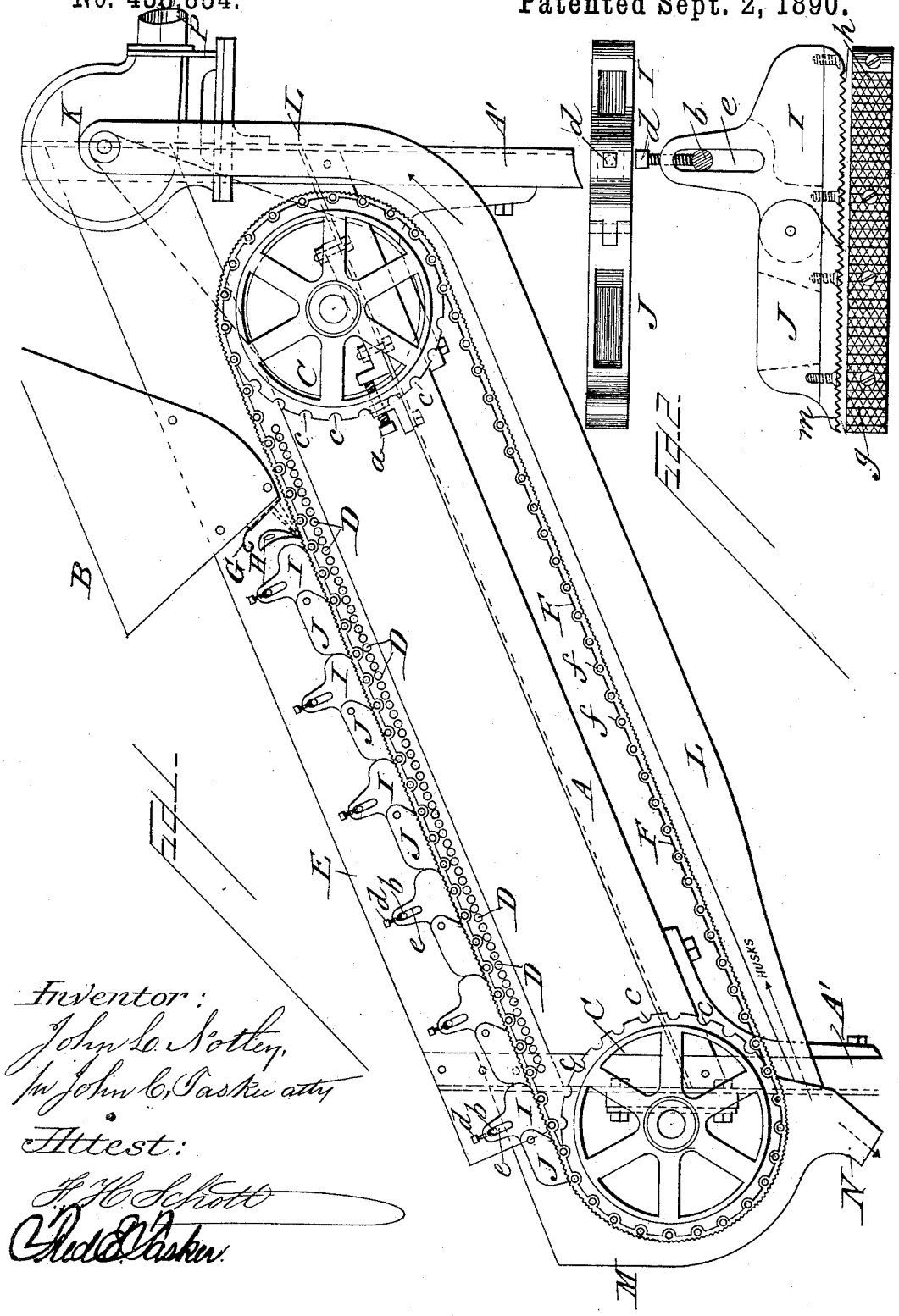
(No Model.) 2 Sheets—Sheet 1.

J. L. NOTLEY.

DECORTICATING MACHINE FOR REMOVING OUTER COVERING FROM COFFEE.

No. 435,854. Patented Sept. 2, 1890.



Inventor:
John L. Notley,
by John C. Paske his atty

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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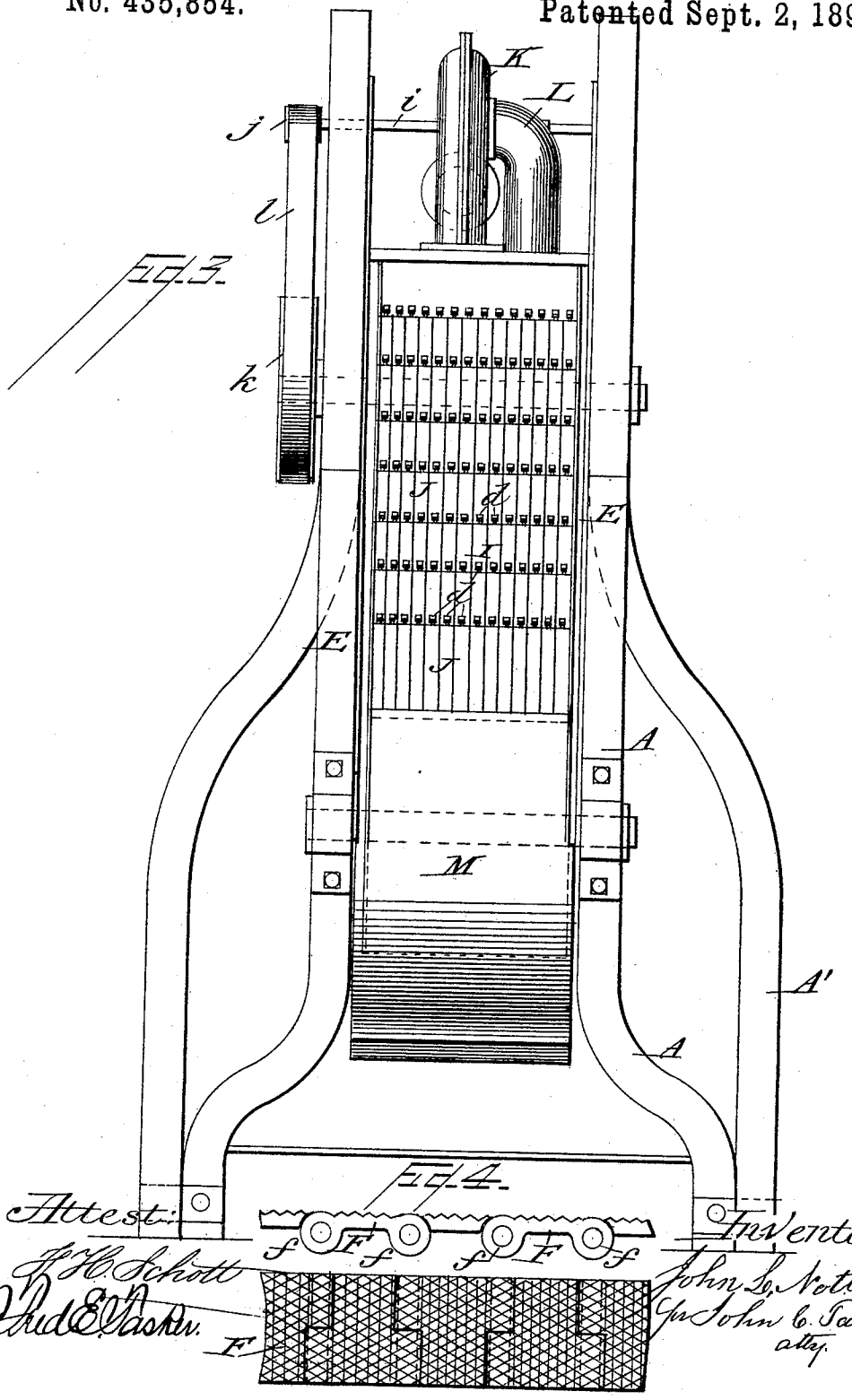


Fig. 3.

Fig. 4.

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UNITED STATES PATENT OFFICE.

JOHN L. NOTLEY, OF SANTA CRUZ, CALIFORNIA.

DECORTICATING-MACHINE FOR REMOVING OUTER COVERING FROM COFFEE.

SPECIFICATION forming part of Letters Patent No. 435,854, dated September 2, 1890.

Application filed January 18, 1890. Serial No. 337,310. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. NOTLEY, a citizen of the United States, residing at Santa Cruz, in the county of Santa Cruz and State of California, have invented certain new and useful Improvements in Decorticating-Machines for Removing the Outer Covering from Coffee or other Seeds or Berries; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in decorticating machinery adapted particularly to be used for the purpose of removing or stripping off the outer shells or husks from coffee-berries, but suitable for use in stripping other and various kinds of seeds or berries of their skins or wrappings, the object of the invention being to provide a simple, easily-managed, and effectively-operating machine for the purpose just suggested; and the invention consists in the construction, arrangement, and combination of parts, substantially as will be hereinafter described and claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a side elevation of my improved decorticating-machine. Fig. 2 represents the detailed construction of one of the shoes, dies, or rubbing-plates, it being illustrated in this figure in top plan, side elevation, and bottom plan. Fig. 3 is an end elevation of the entire machine. Fig. 4 represents in detail the construction of the traveling bed or apron, the operation of it being in this figure shown in edge view and in plan view.

Similar letters of reference designate corresponding parts throughout all the different figures of the drawings.

The main frame A is preferably arranged substantially in an inclined position, it being mounted upon legs, supports, or standards A' A'. Said main frame may be of any convenient structure and shape, it being only necessary that it should be so built that it may accommodate the several mechanical parts which constitute the improved decorticating-machine herein presented.

B denotes a hopper into which the coffee-berries or other material to be stripped or divested of its outer covering are thrown or deposited in any desired manner. This hopper is preferably located at a point near the upper end of the inclined frame. The bottom of said hopper is provided with an exit-opening for the material to be deposited therein, which exit-opening is governed and regulated by a slide G, formed so that it may be easily grasped by the hand of the operator. By suitably moving the slide the opening will be uncovered, so that the coffee-berries may have free exit from the hopper, and when the slide is closed the outlet for the berries is cut off.

The main frame of the machine is provided with inclined parallel sides E E, to which the hopper B is firmly secured. (See Fig. 1.)

At each end of the machine is journaled a shaft carrying a series of pitch-wheels C, which engages the traveling bed. These pitch-wheels C C are provided at suitable points around their periphery with transverse parallel flutings or grooves *c c c*, which grooves are adapted to receive suitable projections on the under side of the traveling bed, so that as the said wheels revolve the said bed may be propelled forward, as will be hereinafter fully described. One of the shafts for these wheels—as, for instance, the lower one—is held preferably in non-adjustable bearings. The other—as, for instance, the upper one—is held in a bearing which may be adjusted more or less by suitable means, as, for instance, the set-screw *a*, passing through a part rigid on the frame and operating a slide-box, which carries the shaft of the upper pitch-wheel C, as clearly represented in Fig. 1. This adjustability of one of the pitch-wheel shafts enables the required tension of the traveling bed or apron to be regulated.

The construction of the traveling bed or apron is best shown in the details in Fig. 4. It consists of a series of sections F F, which are hinged together by hinged joints. Each section F is preferably furnished with a bearing *f*, having a round semicircular side on the bottom of the section and having a length equal to half the width of the section. Through these bearings *f* pass pins. In this way the sections are connected together movably so that they may be quickly joined or disjoined as occasion requires. When they are fast-

ened together, they present a continuous surface, which is preferably corrugated or otherwise roughened to facilitate the stripping of the skins off the coffee. The projecting bearings *f f*, just referred to, serve to enter the flutings or grooves *c c* in the pitch-wheels C C. This traveling bed, thus constituted and consisting of interjoined sections, is of suitable length to permit it to extend around the pitch-wheels C C, and thus affords a traveling surface, which passes directly beneath the hopper B and receives from said hopper the coffee-berries as they are discharged through the opening in the hopper. An inclined series of parallel horizontal rollers D D, arranged close to each other, as shown in Fig. 1, serves to give the traveling bed a firm and rigid support when it is moving between the two wheels and directly beneath the shoes. Said series of rollers facilitates also the easy movement of the traveling bed or apron.

Adjacent to the discharge-opening in the hopper is a transverse plate H, having a sharp lower edge, which rests upon or is in close proximity to the roughened face of the moving apron. This plate is termed a "distributing or diffusing plate," its function being to spread the coffee-berries over the width of the moving apron. Being located close to the point where the berries are discharged from the hopper, it is the first obstruction which they meet, and as the berries strike it they will be more evenly distributed upon the face of the bed, and hence, as they pass beneath the diffusing-plate, will be presented to the action of the rubbing shoes or plates, so as to be acted upon in a proper way to divest them of their hulls or skins.

In the frame above the moving bed are arranged shoes or dies, whose lower roughened faces are close to the upper roughened face of the traveling bed. These dies or shoes are stationary except as to a slight vertical oscillation, of which they are susceptible. Between the shoes and the bed the coffee-berries are carried during the onward movement of the bed, and it is in this way that said berries are stripped of their coverings. There are several series of these shoes. In Fig. 1 they are seen in side view, and in the end elevation of Fig. 3 it is seen how they are arranged in series. In Fig. 2 the detailed construction of one of them is fully and clearly exhibited. Each shoe consists of the hollow part I, provided with the vertical slot *e*, through which passes the horizontal roller *b*, the ends of which are journaled in the sides E E of the main frame. In the upper end of the part I is a set-screw *d*, the lower end of which projects itself into the upper portion of the slot *e* and bears upon the horizontal roller or shaft *b*. By adjusting this set-screw *d* the position of the face of the shoe with respect to the traveling bed—that is to say, the interval or space between the two—may be adjusted or regulated. An extension J is pivoted by a hinged joint to the shoe I. This extension may be dispensed with, if desired; but I prefer to use it. The extension is likewise preferably made hollow. The shoe, as well as the extension, is preferably narrow. (See the plan view in Fig. 2.) The bottom edge of the shoe I is on a line with the bottom edge of the extension J. To the under side of the shoe I is secured, by means of screws or other suitable attaching means, a roughened plate *h*. To the under side of the extension J is secured, by means of suitable screws or other devices, a roughened plate *g*. These plates *g* and *h* belonging to each shoe form one surface when the parts are in the position shown in Figs. 1 and 2. The shoes, arranged in the same row across the machine, will obviously be supported on the same shaft *b*. Each extension J has a curved projecting foot *m*, which, when the dies are all in position, passes under the edge of the next adjacent shoe I. Thus when the dies or shoes are all in the position indicated in Fig. 1, their under surface will be one continuous roughened surface, and they will all be stationary except for the vertical play above alluded to.

After the material has been carried through between the traveling bed and the rubbing-shoes, it will be discharged into the conduit M, located at the end of the frame, and ejected from this conduit through the spout N. The husks, however, or coverings of the coffee-berries or other seeds, and any other similar light material, will not pass out through the spout N, but will be caught by the air-suction in pipe L, and carried up through said pipe L to be discharged at the point P.

K designates a fan or blower having a shaft *i*, journaled in the upper end of the machine-frame, on which shaft is a pulley *j*, belted at *l* to the pulley *k* on the shaft which carries the upper pitch-wheel C. In this way the pitch-wheel transmits power to drive the fan, and the revolution of this fan creates the suction through the pipe L, whereby the husks and light material are thoroughly and effectually separated from the decorticated coffee, allowing the latter to pass out through the discharge end into some suitable receptacle there placed to receive them, while the refuse, being caught by the suction, is disposed of as already stated.

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

1. In a decorticating-machine, the combination of the moving bed or apron consisting of interpivoted sections, the pitch-wheels engaging and moving said bed, the series of shoes having the hinged extensions, the feed-hopper, discharging-conduit, and air-suction pipe, substantially as described.

2. In a decorticating-machine, the rubbing-shoe I, the hinged extension J, having toe *m*, and the roughened faces G.

3. In a decorticating-machine, the combination of the traveling apron, the pitch-wheels for supporting and operating said bed, the se-

ries of horizontal rollers for supporting the bed opposite the shoes, and the series of shoes supported on a transverse shaft, each consisting of shoe I, slotted at *e*, and the hinged extension J, together with set-screw *d*, substantially as described.

4. In a decorticating-machine, in combination with a moving bed or apron consisting of interpivoted sections, and the pitch-wheels engaging and moving said bed, a series of shoes supported on a transverse shaft, each consisting of the shoe I, slotted at *e*, and the extension J, hinged to the shoe I, together with set-screw *d*, for adjusting the position of the shoe, all substantially as described.

5. In a decorticating-machine, the combination of the moving bed consisting of the interpivoted sections, the pitch-wheels having transversely-grooved faces engaging and operating the moving bed, the main frame having the sides E E, the feed-spout above the bed, the several series of shoes mounted on transverse shafts, each shoe consisting of the shoe I, slotted at *e*, and the set-screw *d* in the shoe bearing on the transverse shaft, substantially as described.

6. In a decorticating-machine, in combination with the moving bed, a rubbing-shoe I, slotted at *e*, the transverse shaft *b*, passing through the slot *e*, the set-screw *d* in the end of the shoe I, bearing on shaft *b*, the hinged extension J, having toe *m*, and the roughened faces G, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN L. NOTLEY.

Witnesses:
B. HILL,
ALFRED A. ENQUIST.