(No Model.) 2 Sheets—Sheet 1.

A. CHAMBERS.

FRUIT CLEANER.

No. 588,854. Patented Aug. 24, 1897.

Fig. 1.

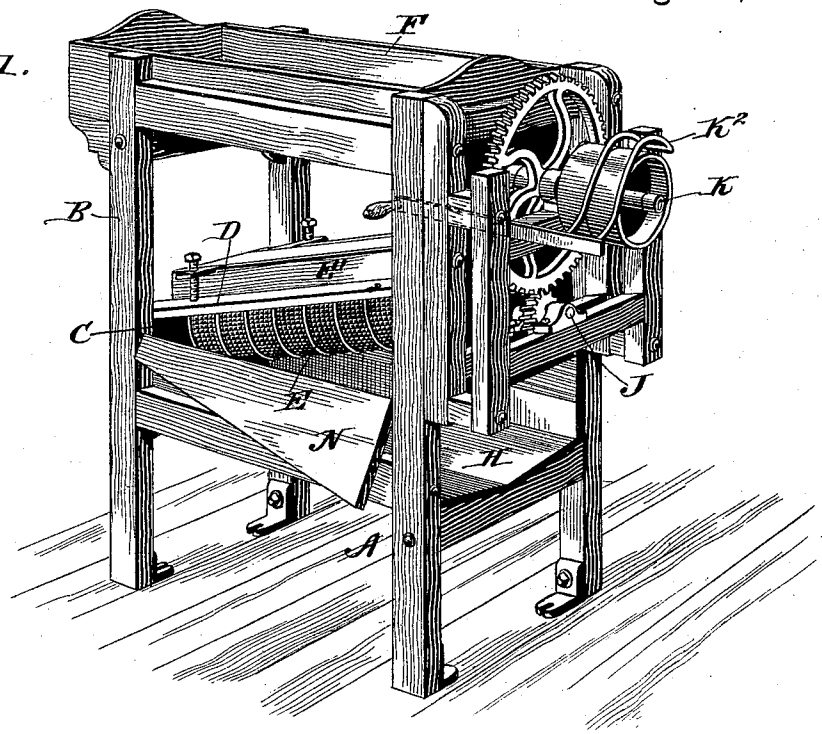
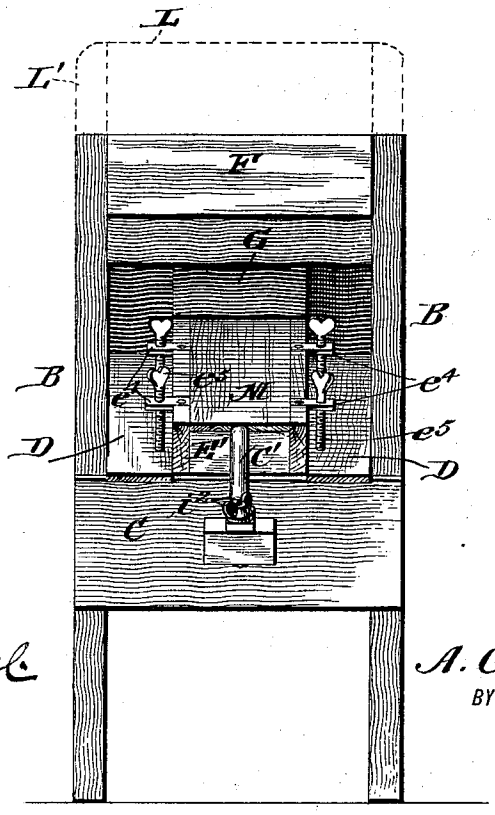


Fig. 2.



WITNESSES:

W. D. Blondel.

P. B. Turpin.

INVENTOR

A. Chambers.

BY Munn & Co.

ATTORNEYS.

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

(No Model.) 2 Sheets—Sheet 2.

A. CHAMBERS.

FRUIT CLEANER.

No. 588,854. Patented Aug. 24, 1897.

Fig. 3

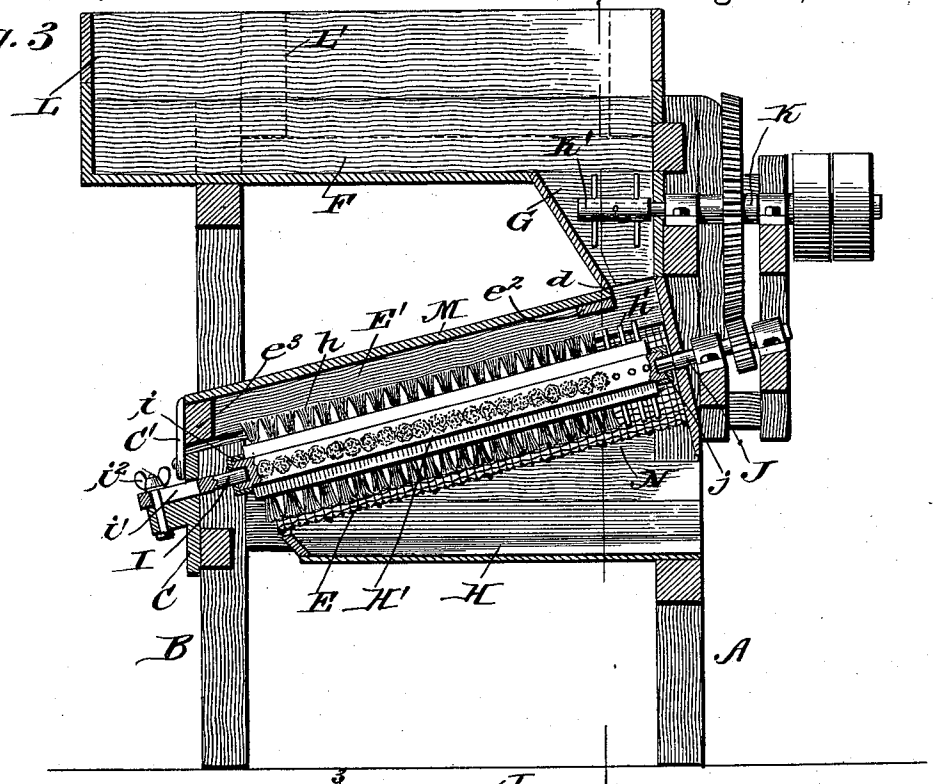


Fig. 4

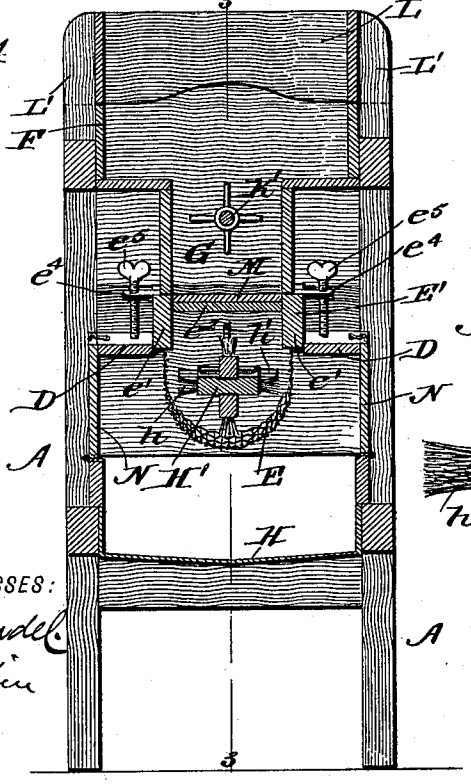


Fig. 5.

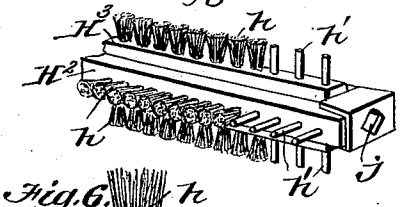
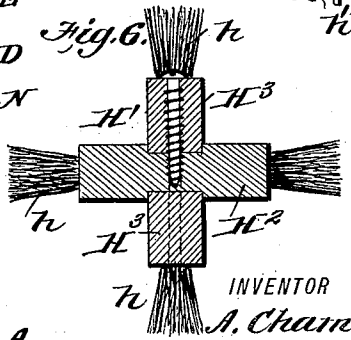


Fig. 6.



WITNESSES:

W. A. Blondel

R. B. Morgan

INVENTOR

A. Chambers.

BY Munn & Co.

ATTORNEYS.

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

UNITED STATES PATENT OFFICE.

ALEXANDER CHAMBERS, OF NEWTOWN, PENNSYLVANIA.

FRUIT-CLEANER.

SPECIFICATION forming part of Letters Patent No. 588,854, dated August 24, 1897.

Application filed February 1, 1897. Serial No. 621,512. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER CHAMBERS, of Newtown, in the county of Bucks and State of Pennsylvania, have invented a new and useful Improvement in Fruit-Cleaners, of which the following is a specification.

My invention is an improvement in machines for cleaning fruit—such, for instance, as currants, raisins, dried apples, prunes, &c.; and the invention has for its objects, among others, to provide simple means for adjusting the screen or trough to the brush, to so support the several parts that the brush and screen may be readily removed for any desired purpose, and to furnish means whereby the proper disintegration of the lumps of fruit will be effected before the fruit is acted on by the brushes; and the invention consists in certain novel constructions, combinations, and arrangements of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of my machine. Fig. 2 is an elevation of the rear or discharge end thereof. Fig. 3 is a vertical longitudinal section on about line 3 3, Fig. 4. Fig. 4 is a cross-section on about line 4 4, Fig. 3. Fig. 5 is a detail perspective view of the upper or front portion of the brush, and Fig. 6 is an enlarged cross-section of the brush.

The machine comprises a suitable frame having front legs A and rear legs B, a cross-bar C, rails D, extending from the rear to the front end of the machine, and suitable cross-bars extending between the legs at the top and forming braces and supports for the hopper.

The rails D may be flat boards, as shown, or of other suitable construction and incline upward from the rear to the front end of the machine. These rails are arranged on opposite sides of the center of the machine and are spaced apart a sufficient distance to receive between them the trough-like screen E.

In the top of the frame I form or provide a box-like receptacle F, extending, preferably, over the entire machine and adapted to receive a considerable quantity of fruit, such receptacle having a discharge-hopper G, whose lower or discharge end is arranged a short distance above the upper ends of the inclined rails D and forms a bearing at d, beneath which the upper end of the screen-frame is held, such upper end of the frame resting upon the rails D and being held between said rails and the bearing d until released, as presently described.

The screen E has a frame E′ and may be of any suitable material. In practice I usually furnish several screens with each machine, one made of wire of suitable mesh for currants and others of larger mesh or of suitably-perforated metal for raisins, apples, prunes, &c., and, where desired, special sieves may be supplied to properly serve any special purpose.

The frame E′ is made longer than the screen proper and extends at its lower end below the same and rests upon the rear cross-bar C, the cleaned fruit dropping from the lower end of the screen into a suitable receptacle at G, a trough H being arranged to receive the dirt, &c., discharged from the fruit.

The screen-frame E′ has side bars e', upper brace-cleat e^2, lower cleat e^3, and lateral brackets e^4, having threaded openings for the set-screws e^5, which bear at their lower ends on the rails D and form adjustable supports for the screen, so the latter can be adjusted up or down, and which permit the sliding of the screen upon or along the rails in setting such screen to position to permit the insertion and removal of the brush. When set to its uppermost position or position for use, the screen is held by suitable fastenings. It may be a pivoted button C′, supported on the cross-bar C, as best shown in Fig. 2.

The brush H′ has its block made in sections H^2 H^3, secured together, as best shown in Fig. 5, supplied with the bristles or other brush material h, and having for a short distance below their upper ends the pins h', which serve to disintegrate any lumps that may pass the breaker in the hopper. At its lower end the brush-block has a bearing i, turning on a pin I, and at its upper end I provide a non-circular socket j to receive the corresponding end of a stud-shaft J, suitably geared with the drive-shaft K, which has drive and loose pulleys, and a suitable belt-shifter K^2 is provided, as shown in Fig. 1.

This shaft K has a breaker K′ operating in the hopper.

The pin I is movable longitudinally into and out of engagement with the lower end of the brush, and means are provided for securing it in such engagement, consisting, preferably, of a screw passed through a slot i' in the pin I and receiving a clamping-nut i^2, as shown.

Where desired, the capacity of the receptacle may be increased by applying the extension-frame L, composed of a bottomless box fitting on the receptacle and having leg-like parts L′, which brace it in position in the frame of the cleaner.

In operation the fruit is placed in the receptacle and dampened sufficiently to loosen the dirt on the fruit, and the latter is fed to the hopper by hand or in other suitable manner. As it passes through the hopper any lumps will be disintegrated. Any lumps that may pass the breaker in the hopper will be caught and broken up by the pins at the upper end of the brush and the fruit will pass to the brushes in loose condition, suitable for the perfect action of the brushes, the dirt, stems, and the like being forced out through the screen and the cleaned fruit passing to the receptacle.

When it is desired to remove the brush or brushes and screen, it is only necessary to release the button which holds the screen, draw the latter downward, release the clamping-nut which holds the pin I, and slip the latter out of engagement with the brush, when the brush or the brush and screen can be removed. I provide a lid M for the screen and doors N, which close in the sides of the frames and form a closed casing around the screen and brush, and so prevent the dirt from being scattered about the machine.

The adjusting-screws permit the convenient adjustment of the sieve toward and from the brush and at the same time so support the screen that it may be slid along its supporting-rails into and out of position for use.

It should be noticed that the top hopper F and the discharge G are preferably water-tight, the zinc being carried down in the discharge G to within one-half inch of the brush, so the water put on the fruit in hopper F passes down through the discharge G directly into the screen along with fruit, and from there into the dirt-pan, which latter may in practice be of zinc.

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

1. A fruit-cleaning machine, comprising the framing, the inclined rails, the screen, the screws having a threaded connection with the screen and bearing upon and sliding along the rails, means for securing the screen in position for use, the brush, bearings for said brush, one of said bearings being movable whereby it may be set to release the brush and fastenings for said movable bearing substantially as shown and described.

2. A cleaning-machine substantially as described comprising the frame having rails to support the screen, the brush, the screen, and the screws having threaded connection with the screen and resting upon and slidable along the rails substantially as described.

3. A cleaning-machine comprising the frame provided with rails arranged at an incline, the screen supported on said inclined rails and slidable along the same, a bearing above the upper ends of said rails beneath which the upper end of the screen fits when in uppermost position, means for holding the screen in such position, and the brush substantially as shown and described.

ALEXANDER CHAMBERS.

Witnesses:
EDWARD B. MCKAY,
C. A. SLATES.