No. 796,017. PATENTED AUG. 1, 1905.

C. V. ROSE.

POTATO SEPARATOR, SPROUTER, AND CLEANER.

APPLICATION FILED OCT. 28, 1904.

3 SHEETS—SHEET 1.

Fig. 1.

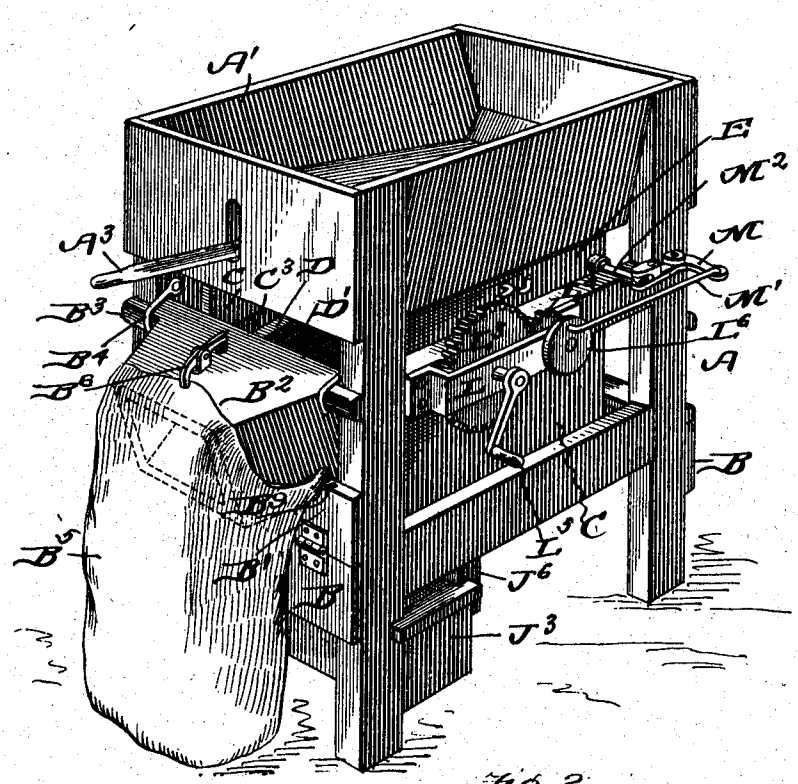
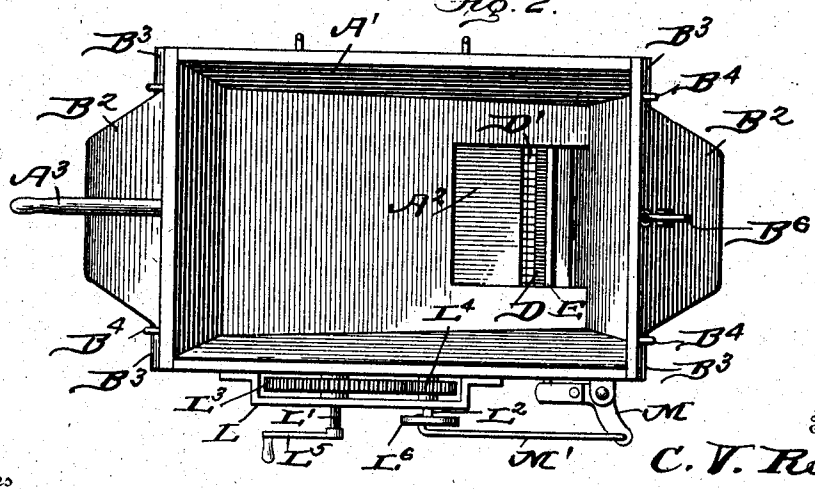


Fig. 2.



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3 SHEETS—SHEET 2.

Fig. 3.

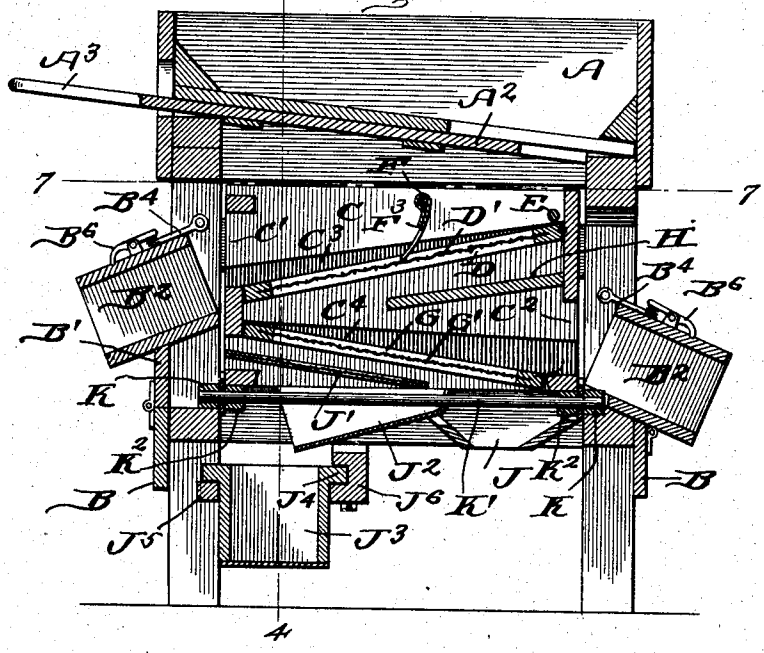


Fig. 4.

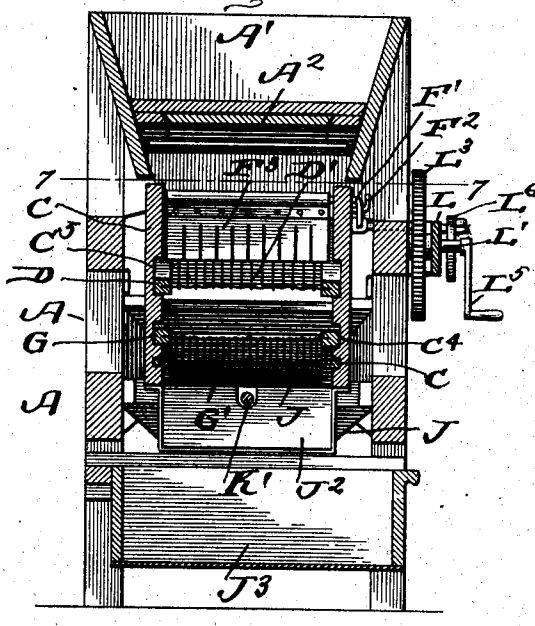


Fig. 5.

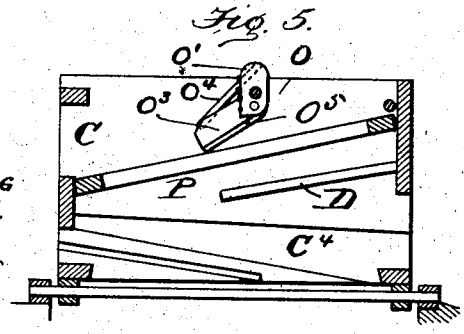
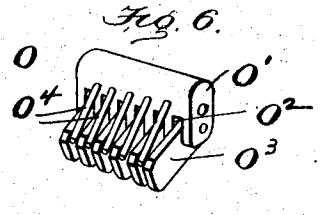


Fig. 6.



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3 SHEETS—SHEET 3.

Fig. 7.

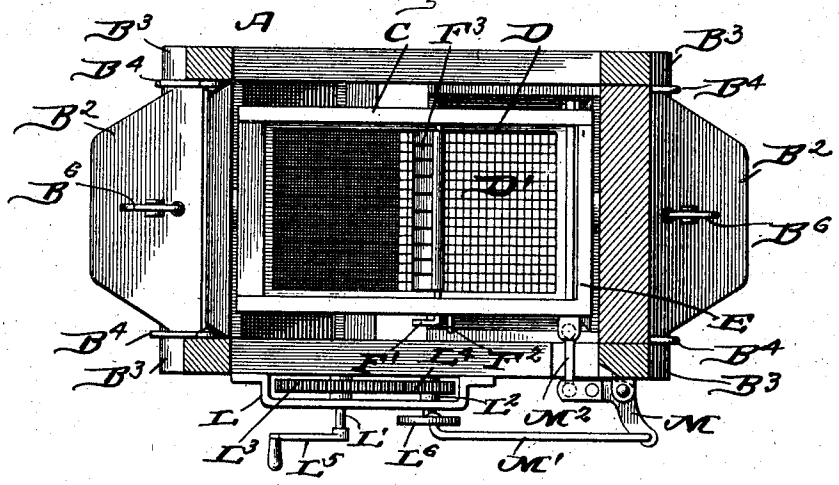


Fig. 8.

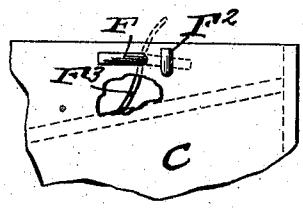


Fig. 9.

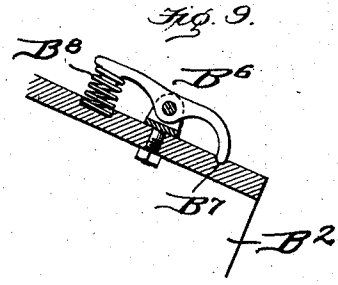


Fig. 10.

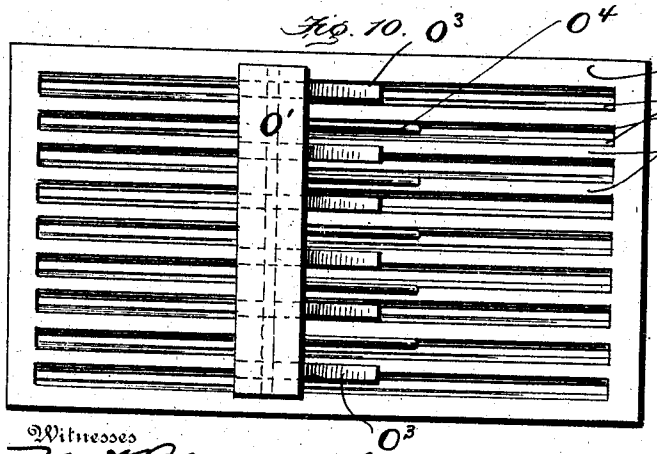
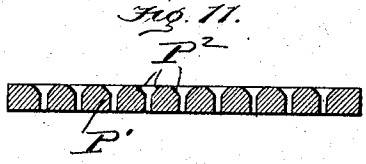


Fig. 11.



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UNITED STATES PATENT OFFICE.

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POTATO SEPARATOR, SPROUTER, AND CLEANER.

No. 796,017. Specification of Letters Patent. Patented Aug. 1, 1905.

Application filed October 28, 1904. Serial No. 230,345.

To all whom it may concern:

Be it known that I, CHARLES V. ROSE, a citizen of the United States, residing at Watertown, in the county of Litchfield and the State of Connecticut, have invented a new and useful Improvement in Potato Separators, Sprouters, and Cleaners, of which the following is a specification.

This invention relates to a device for grading, cleaning, and sprouting potatoes, the operations mentioned going on simultaneously, and the parts are also made detachable and interchangeable, so that the machine can be used for grading and cleaning only or for sprouting and cleaning.

My invention consists in the novel features of construction and combination of parts hereinafter described, particularly pointed out in the claims, and shown in the accompanying drawings, in which—

Figure 1 is a perspective view of my device. Fig. 2 is a plan view. Fig. 3 is a vertical section through the device. Fig. 4 is a section on the line 4 4 of Fig. 3. Fig. 5 is a small detail sectional view showing the sprouter device in position. Fig. 6 is a detail perspective view of the sprouter-comb. Fig. 7 is a section on the line 7 7 of Fig. 4. Fig. 8 is a detail view showing the means for locking the cleaning-comb in a raised position. Fig. 9 is a detail view, partly in section, showing one of the hooks for holding the bags in position. Fig. 10 is a perspective view of the sprouting-screen. Fig. 11 is a cross-section of the sprouting-screen.

My device comprises the usual frame A and a hopper A′, carried by the frame. At each end of the frame is secured a board B, to which is hinged a second board B′, which board supports a discharging-hopper B^2. These hoppers have lateral projections B^3, which bear against the frame A and limit the inward and upward swinging movement of the hoppers. Pivoted hooks carried by the frame are adapted to swing down and engage these lateral projections and hold the hopper in the proper position for discharging into a bag or other receptacle, as shown at B^5, the hooks B^4 being arranged above the hoppers. To hold the bag in position, I arrange on each hopper B^2 a hook member B^6, pivoted intermediate its ends between parallel lugs secured to the hopper, and the forward end of the hook engages a socket B^7, formed in the hopper. A spring B^8 is arranged between the opposite end of the spring and the hopper and pressing upward normally holds the hook member in engagement with the socket. Hooks B^9 are arranged on each board B′ on the sides of the hopper, and the bag B^5 has its mouth distended and drawn over the hopper, the under side being caught over the hooks B^9, and the upper side is caught under the hook member B^6 and being forced into the socket is held firmly from slipping under the weight of the potatoes discharged into the bag.

In the frame A is arranged an upwardly and downwardly open box-frame C. At one end the box is cut away adjacent its top and at the opposite end adjacent the bottom, forming openings C′ and C^2, alining with the discharge-hoppers B^2, respectively, and it will be understood that while similar in construction one of the hoppers B^2 is lower than the other. In each side of the box C is formed two wedge-shaped recesses C^3 and C^4, the upper one, C^3, inclining downwardly toward the opening C′ and the lower one, C^4, inclining downwardly in the opposite direction toward the opening C^2. A rectangular frame D has its side members resting in the recesses C^3, and this frame carries a screen D′ of a large mesh. After being placed in position the screen and frame are held by a rod E, which passes transversely through the box C just above the upper end of the frame D. Intermediate its ends a rod F is rotatably arranged in the box transverse to and above the frame D, and on one side this rod projects from the box and has its outer end portion bent to a right angle, as shown at F′. A hook F^2 is arranged on the outer side of the box and is adapted to be engaged by the bent end portion F′. On the rod F is arranged a cleaning-comb F^3. This comb consists of a stiff leather bent around and secured to the rod, as shown in Fig. 3, and the lower edge of the comb, which is adjacent to and transverse to the screen D, is slotted at intervals, whereby a plurality of flaps or teeth are formed along the lower edge of the comb. When the bent portion F′ is thrown into engagement with the hook F^2, the rotation of the rod throws the comb in an elevated position, and the bent portion F′, fitting rather tightly between the hook F^2 and the side of the box, the comb is held raised until the rod F is again rotated by the person operating the device.

The lower recesses C^4 support the sides of

a frame G, in which is arranged a screen G′ of a finer mesh than the screen D′. In Fig. 7 I have shown a plan of the upper screen, through a portion of which is shown the meshes of the two lower ones. A baffle-plate H is arranged between the two screens and parallel to the screen D′. At the bottom of the box C, adjacent the lower end of the screen G′ and below same, is arranged a downward discharge-chute J. Below and parallel with the upper portion of the screen G′ is arranged a fine-mesh screen J′, being of a finer mesh than either of the other two, and below this last screen is arranged a discharge-chute J^2, which discharges into a removable dust-box J^3. This dust-box has exterior side cleats J^4, one of which rests on a cross-bar J^5 and the other of which is adapted to rest and slide in a groove formed in the side of a cross-beam J^6. At each end of the frame A is arranged a lug K, and the ends of a rod K′ are held in these lugs. Suitable brackets K^2 are arranged at the ends adjacent the bottom of the box C, the rod passing loosely through these brackets. The box C is thus pivotally held in the frame A, the rod K′ being on the longitudinal axis of the box, and as the box is considerably narrower than the frame A the upper portion of the box will have a sufficient rocking movement to agitate anything placed on the screens, which of course rock with the box. To rock the box and screens, the following mechanism is employed:

A bracket L is arranged on one side of the frame, in which are arranged two stub-shafts L′ and L^2, on one of which is arranged a gear-wheel L^3 and on the other a pinion L^4. The outer end of the shaft L′ carries a handle L^5 of the usual type, and the outer end of the shaft L^2 has a small wheel L^6 rigidly secured on it. Horizontally pivoted to the frame A adjacent the rod E is a bell-crank M. A pitman has one end connected to the longer end of the bell-crank and the other end connected to the wheel L^6, the pitman being indicated at M′. A link M^2 is pivoted at its outer end to the shorter arm of the bell-crank and at its inner end is connected, by means of a universal joint, to the rod E. By the means thus described the box C is rocked and a similar motion given to all of the screens.

The hopper A′ has a bottom slanting toward the upper end of the screen D′ and cut out over the upper portion of said screen. A slide A^2, operated by a suitable handle A^3, closes the opening, and by adjusting the slide the size of the opening can be regulated.

It is thought that the operation of the device when the parts are thus assembled and the crank-handle is rotated will be obvious. The larger potatoes will pass down the screen D′ into the uppermost hopper B^2 and thence into the bag secured to said hopper. As the potatoes are shaken under the comb the dirt will be scraped from them and will fall through the successive screens into the dust-box J^3. The smaller potatoes will fall through the opening in the screen D′ and will travel down the screen G′ and pass out through the lower hopper B^2 and be collected in the bag at that end of the device.

Sprouts and the smallest potatoes will pass through the screen G′ and out through the discharge-chute J and be caught in any receptacle that may be placed under the said chute to receive them. The baffle-plate prevents the dirt and dust from falling on the lower portion of the screen G′ and thus passing out through the chute J. By this arrangement the device is well adapted for use in a barn or other building, as the dirt and dust are deposited in a box and not scattered loosely on the floor around the machine. By arranging all the screens in a box-frame and then imparting the rocking motion to the box the mechanism for shaking the screens is much simplified, as it becomes unnecessary to provide a rocking means for each screen.

In sprouting potatoes the cleaning-comb F and the screen D′ are removed and a sprouter-comb O and screen P placed in position, as shown in Fig. 5. The sprouter-comb O comprises a block O′ notches along its lower edge and having a plurality of notches O^2, in which are pivoted plates O^3, arranged edgewise with respect to the sprouter-screen P and parallel to each other. To the block are secured downwardly-extending arms O^4, the free ends of which project into the spaces between the plate O^3. The plates O^3 are formed with a lower cutting edge O^5, as shown in Fig. 5. The screen P is formed of a plurality of longitudinally-extending bars P′, beveled longitudinally on their upper edges, as shown at P^2, the bars being spaced slightly apart and the cutting edges of the plate O^3 and the arms O^4 alining with alternating spaces, as shown in Fig. 10.

The operation of the machine when the sprouter-comb O and screen P are used is the same as with the cleaning-comb and screen D′.

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

1. A device of the kind described comprising a frame having a hopper thereon, discharging-hoppers arranged at the ends of the frame, one of said hoppers being lower than the other, a rod arranged centrally and longitudinally through the frame, a box pivoted on the said rod, a detachable screen carried by the box and leading downwardly to the higher end hopper, a screen of finer mesh arranged below the first-mentioned screen and slanting downwardly in the opposite direction to the lower end hopper, a baffle-plate parallel to the upper screen interposed between the two screens, a fine screen below and parallel to the lower screen and at the end of the box opposite the baffle-plate, a discharge-chute under the lower

end portion of the lower screen, a discharge-chute under the fine screen, a removable dust-box under the last-mentioned chute, an adjustable comb arranged transverse to the upper screen, means carried by the end hoppers for securing bags thereto, and means for rocking the box and all of the screens, substantially as described.

2. A device of the kind described comprising a feed-hopper, a box, screens in the box, means for rocking the box, end hoppers, hinged boards carrying said end hoppers, means for locking the hoppers in position, a hook arranged on the boards on each side of each end hopper, each hopper having a socket formed in one of its sides, a hook member pivoted on each hopper intermediate its ends and adapted to engage the said socket and to grip the side of a bag, and a spring arranged between the hopper adapted to hold the hook member in engagement with the socket, as and for the purpose specified.

3. A device of the kind described comprising a frame, a feed-hopper, a box carried by the frame below the feed-hopper and cut away at the end, a discharge-hopper adjacent the end of the box, a screen downwardly inclined toward the discharge-hopper and arranged in the box, means for rocking the box, a rod arranged transversely in the box above the screen and between the feed-hopper and the discharge-hopper, a strip of leather carried by said rod said strip having slits formed at intervals in its lower edge, said leather strip forming a cleaning-comb, and means for holding the comb in an elevated position.

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