

(No Model.)

C. G. POULSON, Jr., Dec'd.

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SORTING MACHINE.

No. 557,877.

Patented Apr. 7, 1896.

fig:1.

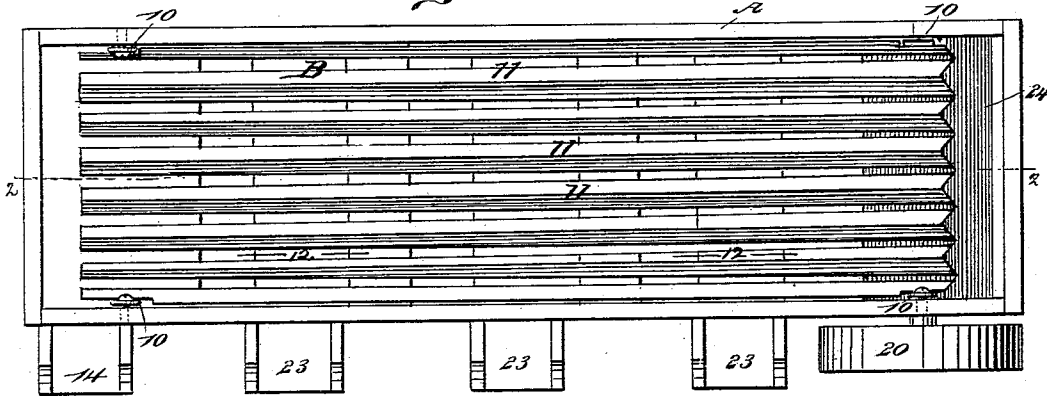


fig:2.

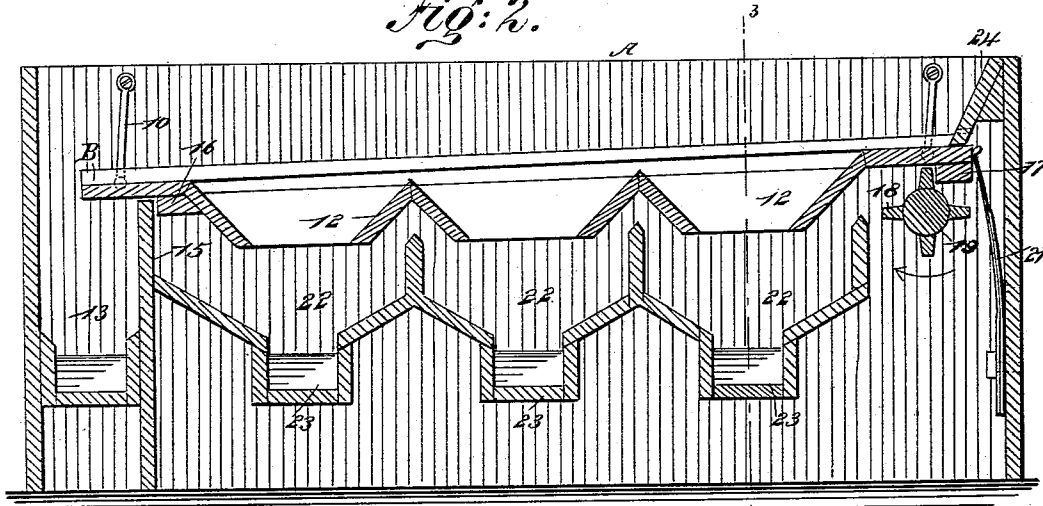
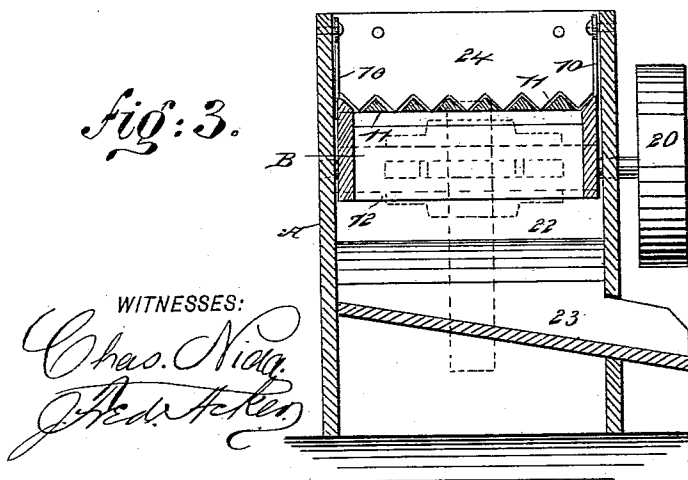


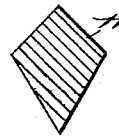
fig:3.



WITNESSES:

Chas. N. V. ...
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fig:4.



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CHARLES GURNEY POULSON, JR., OF LINWOOD, PENNSYLVANIA; CHARLES GURNEY POULSON, SR., ADMINISTRATOR OF SAID CHARLES GURNEY POULSON, JR., DECEASED.

SORTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 557,877, dated April 7, 1896.

Application filed June 5, 1895. Serial No. 551,753. (No model.)

To all whom it may concern:

Be it known that I, CHARLES GURNEY POULSON, Jr., of Linwood, in the county of Delaware and State of Pennsylvania, have invented a new and Improved Sorting-Machine, of which the following is a full, clear, and exact description.

My invention relates to a machine especially adapted for sorting articles, such as vegetables, especially peas and potatoes, or crushed material, the object of the invention being to provide a machine of simple, durable, and economic construction, whereby such articles may be sorted, the various sizes being distributed in proper pockets, from whence the material may be delivered into bags, baskets, barrels, or other receptacles placed to receive it.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the machine. Fig. 2 is a longitudinal vertical section through the same, taken practically on the line 2 2 of Fig. 1. Fig. 3 is a transverse section taken substantially on the line 3 3 of Fig. 2, and Fig. 4 is a transverse section through one of the slats or bars of the supporting-section of the device.

In carrying out the invention a box-body A is provided of suitable dimensions, preferably of greater length than width, and within this box-body a screening or separating table B is located. This table is given a downward inclination from its head in direction of its tail end, as shown in Fig. 2, and the said table is mounted to have end motion in the box-body, being pivotally connected at each side at top and bottom by links 10, the said links being pivotally attached to the box-body at or near the top.

The screening or supporting table B consists of a predetermined number of slats or bars 11, and these slats or bars are substantially diamond or lozenge shape in cross-section, as shown in Fig. 4. The slats or bars

are wider apart at the tail end of the screening or separating table than at the head, the increase in the space between the opposing slats or bars being gradual, and the inclined upper surfaces of the slats or bars tend to guide the material—peas, for example—to be separated or sorted into the spaces between the bars and through which they are adapted to drop.

Beneath the table a series of hoppers 12 is located transversely of the table, being attached thereto, as shown in Fig. 2, so that they have movement with the table, and these hoppers are adapted to receive the peas of different sizes, the smallest-sized peas passing through the narrower spaces of the table and into the first hopper, the next size of peas falling into the next hopper, and so on to the end of the table, at which point the very large-sized peas, not capable of passing through the screening or separating table, pass off at the tail end of the same and are received into a pocket 13, from whence they find an exit through a chute 14 and into a bag or other receptacle placed at the delivery end of the chute. A partition 15 is placed vertically at the rear end of the fixed body beneath the said table, and this partition may and does constitute the inner wall for the pocket 13. The table is provided upon its under face with a buffer 16, adapted to strike against the partition 15 when the table is reciprocated, and at the forward end of the table a rib or batten 17 is secured, which is adapted to be engaged by plates 18, formed upon a drum 19, journaled in the head portion of the box A, beneath the said table, the shaft or trunnion of the drum having a pulley 20 attached when the machine is to be operated by a motor, but may be provided with a crank to be operated by hand.

The "plates" or "cams," as they may be called, upon the drum 19 are at predetermined intervals apart, four of them being shown in the drawings, and a spring 21 is firmly secured at its lower end to the head portion of the box, the upper end of the spring having bearing against the head end of the table, thereby forcing the buffer 16 practically against the partition 15 and pro-

viding a space between the head end of the box and the head end of the table for the longitudinal reciprocation of the latter.

By reason of the impulse given to the table through the spring and the impact of the buffers, together with the slight inclination of the table, the material thereon will roll or slide along its upper face in direction of the tail or delivery end of said table, and below each of the hoppers 12 a pocket 22 is constructed in the box, and a chute 23 is connected with the bottom of each pocket, leading out from the side of the machine in like manner as the chute 14, as illustrated in Figs. 1 and 3.

In the operation of this machine, as the drum 19 revolves, the plates on the drum, striking the offset on the rib 17 at the head of the table, will force the table in direction of the head of the box against the tension of the spring 21, and the very moment that the tension is relieved from the plate on the drum the spring will force the table in direction of its delivery end, causing the buffer 16 to strike violently and suddenly the partition 15, thereby giving the material on the table a decided impulse in direction of its delivery end, assisting the travel of the material down the incline of the table, and this intermittent shock to the table will keep the material thereon constantly agitated and will facilitate the passage of the material through the openings in the table, and owing to the inclination of the sides of the lower portion of the table bars or slats the material, when passing through the spaces between these bars or slats, will be quickly released and will suffer, comparatively, no injury.

It is evident that the machine is adapted for the sorting or grading of all kinds of vegetables, and that it may likewise be adapted for the sorting or grading any crushed material, such as stones, quartz, &c. The sides of the box in which the sorting-table is now placed may, if desired, be fastened to and be a part of the table, moving with it.

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

1. In a sorting-machine, the combination with a casing and an inclined table having a longitudinal reciprocating movement therein, the said table comprising a series of longi-

tudinal bars, the spaces between the bars gradually increasing in width from the head end of the table to the delivery end, of a series of hoppers located beneath the sorting or receiving table and moving therewith, pockets located beneath the hoppers, a pocket at the rear end of the table, the inner vertical wall of the said pocket being arranged beneath the delivery end of the table, a buffer located upon the under surface of the table near the delivery end and normally in engagement with the inner wall of the said end pocket, a rotating body provided with a series of projections adapted for alternate engagement with an extension at the head of the table to move said table in direction of the head and means for returning the table when released from the said projections, substantially as shown and described.

2. In a sorting machine, the combination with a casing and an inclined table having a longitudinally - reciprocating movement therein, the said table consisting of a series of longitudinal slats or bars substantially diamond-shaped in cross-section, the spaces between the bars being gradually widened from the head in direction of the delivery end of the table, of a series of hoppers carried by the table and secured to its under side, pockets located beneath the hoppers, a pocket at the rear end of the table, a vertical partition forming the inner wall of the said pocket and arranged beneath the delivery end of the table, a buffer located upon the under surface of the table near the delivery end and adapted for engagement with the said partition, a rib or projection on the under surface of the table at the head thereof, a spring secured at its lower end to the head of the casing and bearing at its upper end against the head end of the table exerting tension in direction of its delivery end, and a drum mounted to rotate beneath the table near its head and provided with projections adapted for alternate engagement with the said rib or projection at the head of the table, forcing the said table against the power of the said spring, substantially as shown and described.

CHARLES GURNEY POULSON, JR.

Witnesses:

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