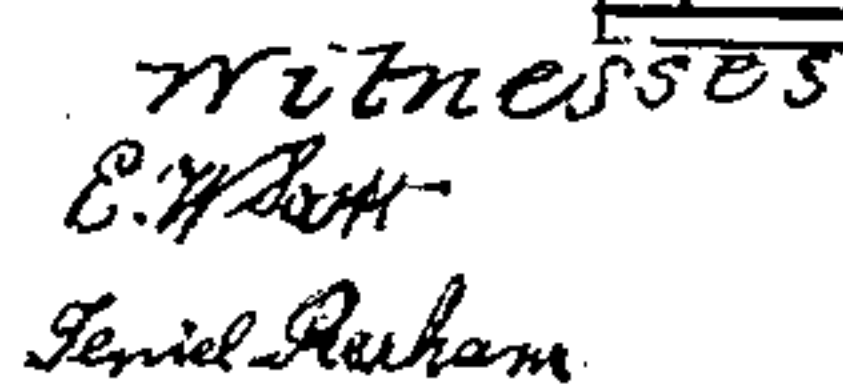


Cranberry Separator.

No. 19,151.

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Inventor
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN CRANBERRY-SEPARATORS.

Specification forming part of Letters Patent No. 19,151, dated January 19, 1858.

To all whom it may concern:

Be it known that I, DAVID PERHAM, of Tyngsborough, in the county of Middlesex and Commonwealth of Massachusetts, have invented a new and useful Cranberry-Separator; and I hereby declare that the following specification, in connection with the accompanying drawings and references thereon, constitutes a lucid, clear, and exact description of the construction and operation of the same.

In referring to the said drawings, Figure 1 denotes a plan or top view, Fig. 2 a side elevation, Fig. 3 an end elevation, of it; Fig. 4, a longitudinal and vertical section on line A B of Fig. 1.

The nature of my invention consists in my within-described machine, in which the bounding of the cranberries as they fall causes the separation of the good from the bad in the manner hereinafter set forth.

To enable persons skilled in the art to which my invention appertains to construct and carry out the same, I will describe it as follows:

I construct a frame of wood, seen at A in the several figures of the drawings.) To the upper portion I fix a hopper, (seen at B.) The bottom of this hopper is an inclined rack, (seen at C, Figs. 1 and 4,) the rounds or bars being placed sufficiently near together to prevent the cranberries from dropping through, but allowing the dirt to drop through. An adjustable throat (seen at H) is fitted to one side of the hopper B, so that it can be raised or lowered at pleasure, to allow the cranberries to pass from the hopper B faster or slower, as may be desired.

I construct a feed-apron, (seen at D,) which passes around a drive-shaft (seen at E) at its lowest portion, and around a smaller driven shaft or roller, (seen at F,) and which is somewhat elevated above the shaft E, so as to give the top of the apron D about the same incline as the bottom C of the hopper or inclined rack, but inclined in an opposite direction, so that the cranberries will first roll down the rack C, then onto and up the apron D. This apron is provided with a number of flexible partitions or guides, I, fastened to its outer surface at an angle from its axis of motion, as seen in the drawings, or at any desired angle. These partitions or guides are for dropping or distributing the cranberries in a scattering manner

onto the inclined plane J, so that they will not fall on each other and prevent their bounding. Above the apron D, I place a flexible strick, (seen at G,) which is made adjustable to allow more or less cranberries to pass, as may be desired.

I construct a bounder (seen at L) and cover that portion of it which projects forward of the incline plane J with india-rubber or any equivalent elastic substance, (seen at L².) This bounder is suspended on pivots G³, which pass through stands S², fastened to each lower edge of the inclined plane T, on which it swings then into the frame A. This plane can at its upper edge be swung back or forth to impart any desired inclination to it. The bounder L is provided with indexial arms, (seen at M,) which point to the index N, so that by raising or lowering these arms the upper surface, L², of the bounder L is inclined, as may be desired. The arms M are bended, so that their ends will press against the inside of the frame and hold the bounder L in the desired position by such pressure. A screw is also provided, (seen at K², Fig. 2,) which passes through the side of the frame A and against the bounder L to hold it in any adjusted position.

I construct a divider, (seen at S,) which may be slid up or down, as indicated by the index K³ on the incline plane N², to give it the desired height to allow the sound, good cranberries to bound from the bounder L over the top of this divider S onto the incline plane N² or flap F², and then down out of the spout P², while the poor, blighted, or rotten cranberries, by reason of not having the same or as much bounding substance in them as the good ones, will fall onto the cushion or non-bounder T below the top of the divider S, and consequently will be conducted back down in the direction the red arrow points to the soft cushion or incline plane T to the lower apron, O. This apron is somewhat shorter than the upper one, and is inclined a little less than the upper one. This lower apron, O, is provided with angular partitions or guides (seen at P) similar to the partitions or guides I on the upper apron, D. This lower apron, O, passes around and is driven by the roll Q, which is turned by band K from the upper apron-roll, E, and also passes around a smaller roll, R, at its elevated or highest point.

I construct an inclined plane (seen at U,

Fig. 4) the upper edge of which is even with the outside of the apron O and roll R. This incline plane U conducts all of the poor cranberries down onto the lower bounder V and M², (adjustable by the arms W and index X,) the poorest of which will fall onto the back surface of the inclined plane Y and roll or slide down into the drawer D², while the next best will bound over the divider Z and be conducted or drop into the box or drawer B² on the forward portion of the inclined plane Y. The bounder V is suspended to the apron U by pivots i, passed through the stands T², which are secured to the inclined plane U, and thence into the frame A. Should there be any good cranberries fall onto the lower bounder V, they will bound over the divider A² and roll down the incline plane O² out of the spout Q². This divider A² is adjustable up and down, as may be desired, in the same manner as the divider S before mentioned.

The double-inclined plane Y is constructed of wood, and is so adjusted as to be slid toward or from the bounder V, the divider Z acting as an indicator to indicate on the index I² the desired position longitudinally of the double-inclined plane Y, while the index J² at right angles with the one seen at I² shows the elevation at which the divider Z is or may be raised. The index to the divider Z is formed on its front side, and consists of a series of lines which show above the top of the double-inclined plane Y, and in that manner indicate the height of the divider Z, as seen at P⁴, Fig. 3.

I place a cross-bar across the machine, (seen at G²), to which is suspended a flap, (seen at F²), against which the good cranberries strike after bounding from the bounder L², to prevent bruising them. An inclined cushion or non-bounder, T, is placed just below the upper bounder, L², to prevent jamming any of the cranberries which may fall onto it.

One or more central guides, P⁵, may be placed on and fastened to the aprons D and O, at right angles with their axis of motion, and they may be placed in the center or any other part of the aprons D or O, as may be desired, to prevent the cranberries from inclining side-wise.

A crank (seen at U²) is connected to the roller or shaft E, by which it is turned and by which the whole machine is put in operation, and may be so kept in motion by any well-known motor, as will be readily understood.

I intend to apply my machine to the cleaning of grapes or any kind of berries, or of currants, or to any purpose to which it may be applied, or to the separating of cranberries. I construct screws (seen at E²) to tighten the aprons D and O, as seen in the drawings.

Operation: The operation of my machine consists in pouring the cranberries or other articles to be cleaned or separated into the hopper B. Then turn the crank U² by hand or power. The dirt which may be in the cranberries will fall through between the slats or bars of the rack C, and the cranberries will com-

mence to roll or slide down the rack C through the adjustable throat H and onto the apron D, the guides I and P⁵ on the apron keeping the cranberries separate from each other and carrying them forward toward the inclined plane J, the flexible strick G preventing the cranberries from passing too fast or in too large quantities. As they reach the outer edge of the apron D they drop down the incline plane J and strike the bounder L and L². The good or sound ones, bounding the most, will bound forward over the divider S against the flap F², which breaks their force without bruising them, when they will roll down out of the spout P². The poor or rotten, or partially rotten, cranberries will bound but little when they strike the bounder L and L². Consequently they will not bound over the divider S, but will fall on the cushion T, then roll or slide back down it in the direction the red arrow points onto the lower apron, O, thence be carried forward and over its upper edge, then down the incline plane U onto the bounder V, when, if there should be any good ones remaining in them, they will bound over the divider A², then out of the spout Q², the poorest dropping down on the back plane of the double-inclined plane Y and down into the drawer D², as the red arrow points, while the best of the poor ones will bound over the divider Z and will drop onto the forward incline plane, and thence down into drawer B², as the red arrow points. Thus there will be two qualities of the poor cranberries, and it is desirable to have them so divided that the best of them may be again run through the machine, if desired, which will be readily seen. Thus the bounding of the cranberries to divide them is the principle of the operation of my machine, and the construction of it is with a view to dividing the cranberries by bounding, as will be readily seen.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The incline plane J and bounder L and L², constructed and relatively arranged and operated, as within described, for bounding cranberries to separate the good from the bad, essentially as fully set forth.

2. The relative arrangement of the hopper B, with its adjustable gate H and rack C, in such manner as to properly deliver the cranberries to the apron D and allow dirt and foreign matter to fall from them through this rack during their delivery, essentially in the manner and for the purposes fully set forth.

3. The arrangement of the guides I and P⁵, constructed with and forming part of the feed-apron D, as described, so that the cranberries will not be allowed to fall on each other when delivered to the bounder, essentially in the manner and for the purposes fully set forth.

4. The movable and adjustable flexible strick G, so placed above and relatively arranged with the apron D as to govern the quantity of cranberries on the apron itself which may be passing over or upon it, essentially in the manner and for the purposes fully set forth.

5. The cushion T, relatively so arranged with the bounder L and L^2 as to receive momentarily and prevent bruising the imperfect cranberries, essentially in the manner and for the purposes fully set forth.

6. The flap F^2 , so arranged with the bounder L and L^2 as to receive the force of the good or perfect cranberries and prevent bruising them as they are separated by and bounded from the bounder, essentially in the manner and for the purposes fully set forth.

7. The double adjustable divider Y and Z, so arranged relatively with the bounder V and M^2 as to subdivide the poorer quality of cranberries, essentially in the manner and for the purposes fully set forth.

DAVID PERHAM.

Witnesses:

E. W. SCOTT,
DANIEL PARHAM.