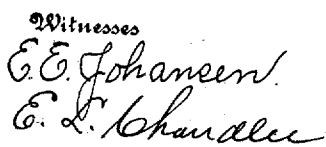


APPLICATION FILED FEB. 8, 1909.

Patented May 3, 1910.
2 SHEETS—SHEET 1.



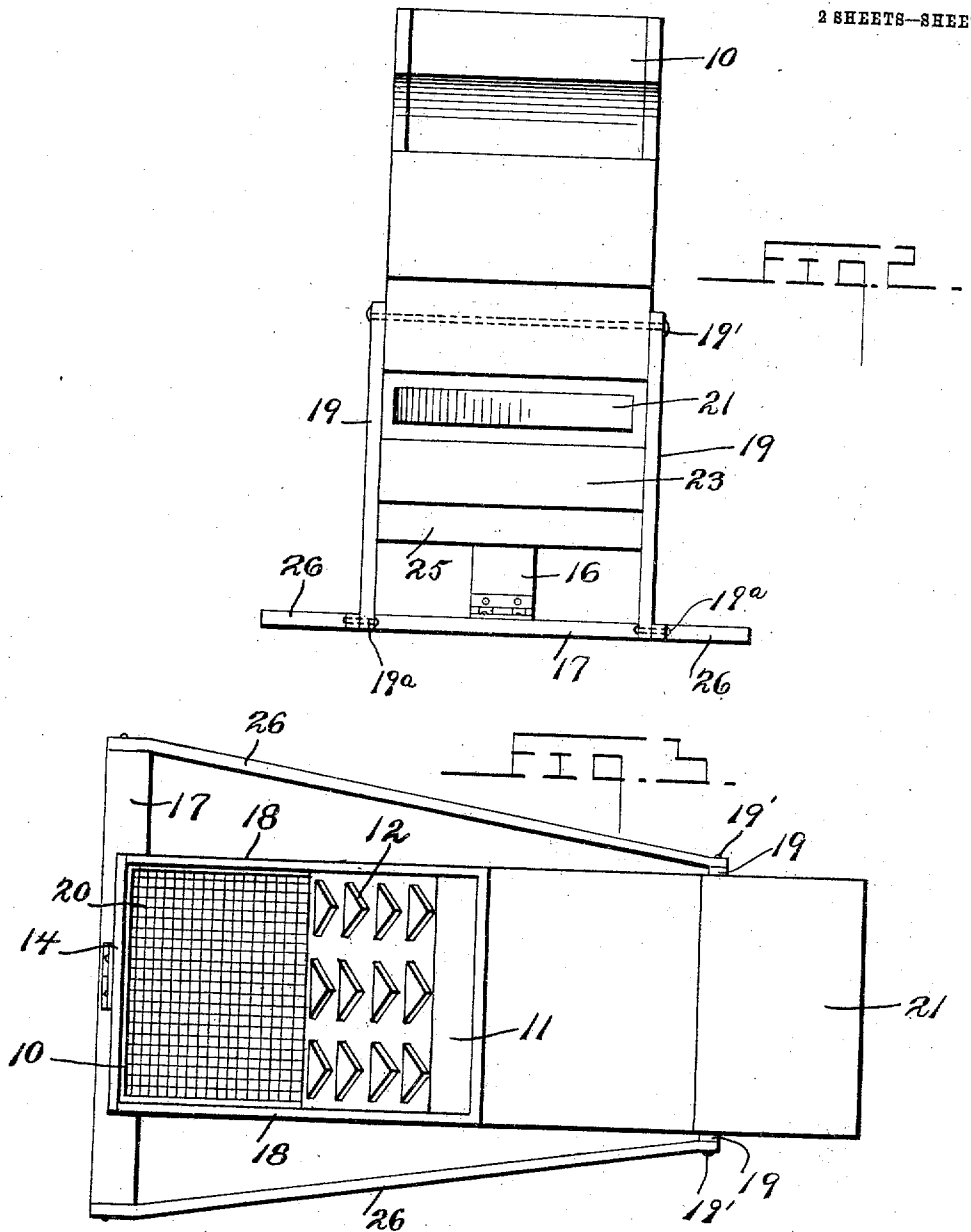
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956,776.

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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SEPARATOR.

956,776.

Specification of Letters Patent.

Patented May 3, 1910.

Application filed February 8, 1909. Serial No. 476,667.

To all whom it may concern:

Be it known that I, MICHAEL McCOY, a citizen of the United States, residing at Dexter, in the county of Mower and State of Minnesota, have invented certain new and useful Improvements in Separators, of which the following is a specification.

This invention relates to gravity separators and has special reference to a device of this character which is employed in connection with grain mills or the like.

An object of this invention is to provide a separator which will screen and divide the material after it has passed from the grinding mill and to deliver the same from separate spouts provided therefor.

Another object of this invention is the provision of a separator of this character which is adapted for employment in connection with the separation of seed or other material of a like nature which it is found necessary to divide.

The invention has for a further object the provision of a device of this character which is of simple construction to enable the ready erection of the same and to enable the operator to keep the same in a cleansed condition and one which may be erected and employed economically.

The invention has for a still further object the provision of a device of this character which is provided with means whereby the same may be adjusted in various angles in order to obtain the results required according to the condition of the materials which are placed therein.

Other objects and advantages will be apparent from the following description and it will be understood that changes in the specific structure shown and described may be made within the scope of the claim without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side elevation of the complete device, Fig. 2 is a front elevation of the same, Fig. 3 is a top plan view, Fig. 4 is a side longitudinal section through the device.

Referring to the drawings, the numeral 10 designates a hopper which is provided with a forward inclined side 11 provided upon the inner face thereof with a plurality of rows of inverted V-shaped ribs 12 which are dis-

posed in vertical alinement for the purpose of spreading the material contained in the hopper 10 so as to flow freely through the aperture 13 formed at the bottom of the hopper 10 in the lower extremity of the side 11. The hopper 10 is supported at the rear side thereof by means of a beam 14 forming the rear wall of the hopper and which is vertically disposed and which is hingedly connected at its lower extremity to the upper extremity of a standard section 15 which is adjustably secured at its lower end to the upper end of a second standard section 16. The standard section 16 is hingedly supported at its lower extremity upon a base board 17 which extends transversely of the section 16 in order to prevent the same from falling.

The hopper 10 is provided with sides 18 which extend downwardly and forwardly where they have engaged therethrough a rod 19, pivotally engaged in the upper extremities of standards 19 which serve as a support for the forward extremity of the device permitting vertical pivotal movement thereof. Disposed immediately beneath the hopper 10 and extended forwardly therefrom in parallel relation with the sides 18 is a sieve or screen 20 which is of a wide mesh and which is secured at its forward extremity between the standards 19 and terminates in a spout 21. The spout 21 is adapted to receive that portion of the material which is of too large a size to fall through the screen 20. Disposed immediately beneath, and in parallel relation to the screen 20, is a second screen 22 which is carried between the sides 18 and which is terminated in a spout 23 which is extended downwardly and rearwardly through the bottom of the device and which is separated from the spout 21. The spout 23 is adapted to receive and to discharge all the matter which passes through the screen 20 which is of too large a size to pass through the screen 22 as the same is formed of a finer mesh than that of the screen 20. A third spout 25 is provided which is positioned beneath the device at the forward end of a bottom 24 and beneath the screen 22 for the purpose of conveying the fine particles of the material which pass through both of the screens 20 and 22.

The base board 17 is rigidly held in position in relation to the standards 19 by means of forwardly divergent rods 26 which are

positioned between the same and which hold the base board 17 in rigid position these rods being pivoted to the standards 19 as shown at 19^a. The standard sections 15 and 5 16 are adjustably and rigidly secured at their adjoining extremities by means of an adjusting bolt 27 which is extended through the same and which is adapted to be actuated by hand. This adjustment is accom- 10 plished by providing the section 15 with a slot 28, the bolt 27 being immovably secured to the section 16 and adapted to move through the slot 28 and adjusted to any desired position therein, thereby regulating 15 the inclination of the screen.

The operation of the device is as follows: The hopper 10 is positioned beneath a feed spout so that the material will fall into the hopper against the front 11 and will be 20 spread by means of the ribs 12 where it will fall through the aperture 13 onto the upper face of the screen 20 and will fall downwardly thereover by gravity on account of the angle in which the screen 20 25 is positioned. The particles which fall through the screen 20 will engage upon the upper face of the screen 22 which is disposed immediately beneath the same where the material is again divided by the passage 30 of the smaller particles thereof through the second screen 22 onto the bottom 24. It will thus be seen that the larger particles will not pass through the screen 20 but will be conveyed downwardly through the spout 35 21. The particles which will pass through the screen 20 but which are of such a size that they will not pass through the second screen 22 will fall downwardly thereover and be poured from the spout 23. The 40 angles of the screens 20 and 22 as well as

the height of the hopper 10 are regulated by means of the adjusting nut 27 which admits of the sliding of the standard sections 15 and 16 outwardly of one another to raise the beam 14. By disconnecting the members 45 15 and 16, they may be folded and the machine thus collapsed to occupy but little space when not in use.

What is claimed is:—

A gravity separator comprising a hopper 50 having a rearward wall, side walls and a front wall, a standard section hinged to the lower end of the rearward wall of the hopper and adapted to be folded to lie against said wall at times, said standard section hav- 55 ing a slot therein, a supporting upright provided with an immovable bolt adjustably and detachably connected with the lower portion of the standard section through the medium of the slot, a pivot rod engaged in 60 the forward portion of the downwardly extending portions of the side walls, supporting uprights pivoted upon the outer ends of the pivot rod, a transverse base member 65 hinged to the lower end of the first named supporting upright, said upright being foldable to lie horizontally at times, forwardly convergent brace rods secured to the ends of the transverse base member, and to the lower end of the forward upright, said standard 70 section being movable with respect to the first named supporting upright to shift the hopper pivotally with the pivot rod as a center.

In testimony whereof I affix my signature, 75 in presence of two witnesses.

MICHAEL McCOY.

Witnesses:

ROBERT WEBER,
R. M. CONKLIN.