

G. A. DABNEY.

2 Sheets--Sheet 1.

Improvement in Grain Separators.

No. 125,027.

Patented March 26, 1872.

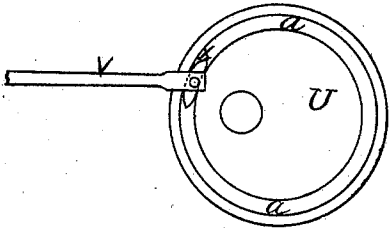
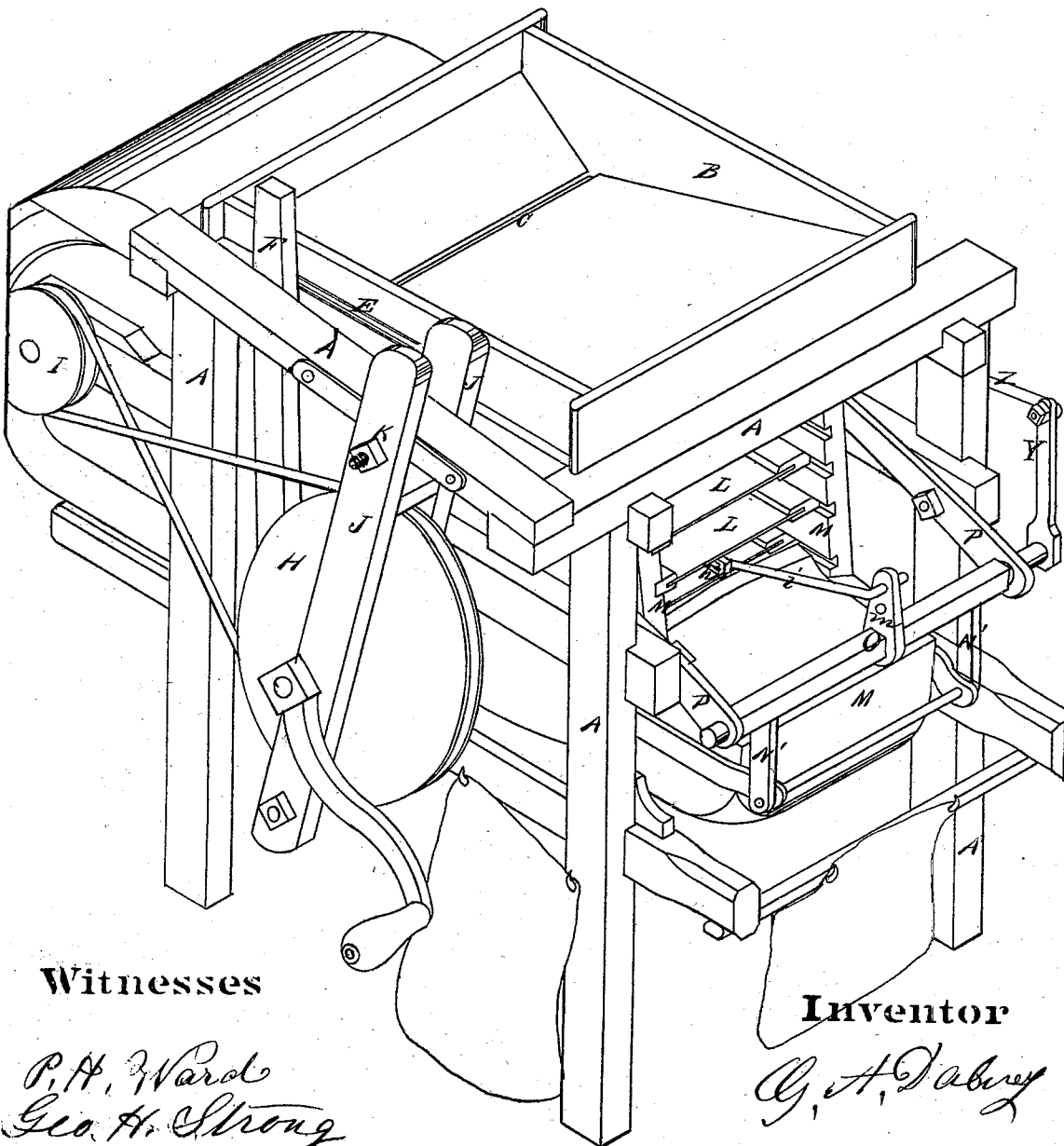


Fig. 1.



Witnesses

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Geo. H. Strong

Inventor

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Fig. 2.

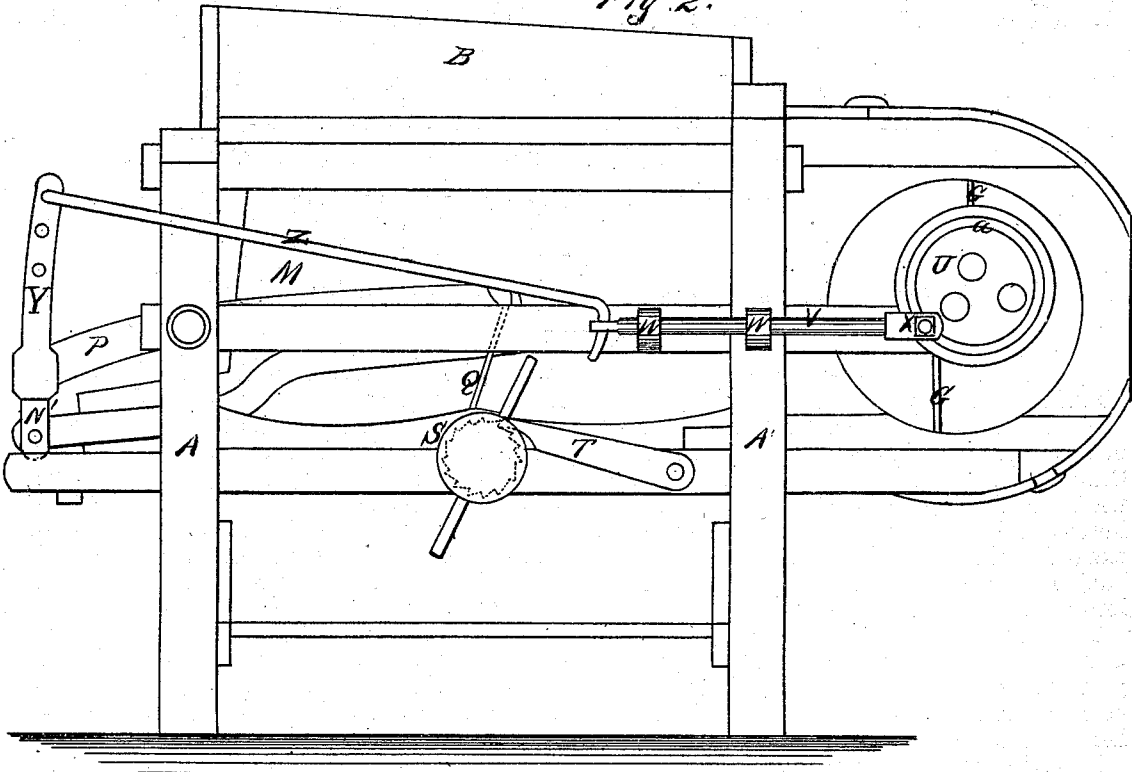
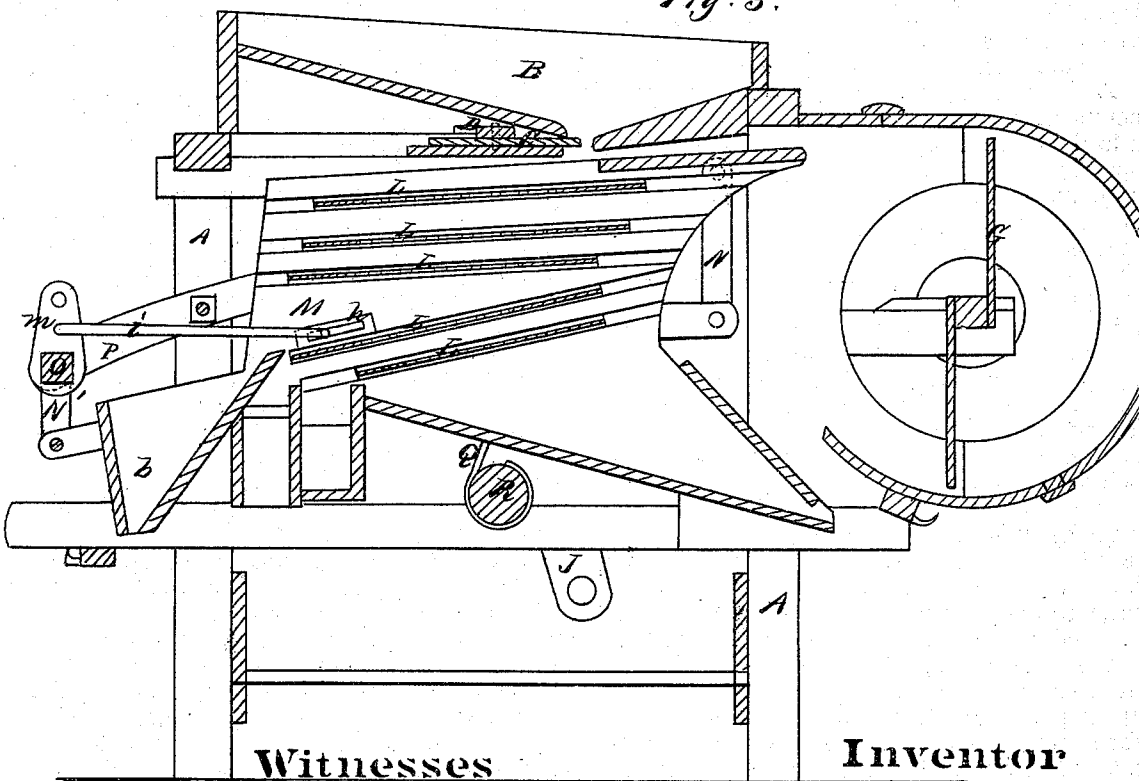


Fig. 3.



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UNITED STATES PATENT OFFICE.

GARLAND A. DABNEY, OF SAN JOSÉ, CALIFORNIA.

IMPROVEMENT IN GRAIN-SEPARATORS.

Specification forming part of Letters Patent No. 125,027, dated March 26, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, GARLAND A. DABNEY, of San José, in the county of Santa Clara and State of California, have invented a new and useful Grain and Seed Separator; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

This invention has for its object the production of an improved machine for separating grain and seed; and consists in certain details of construction, which will be fully described hereinafter.

Referring to the accompanying drawing for a more complete explanation of my invention, Figure 1 is a perspective view of my machine. Fig. 2 is a side elevation. Fig. 3 is a longitudinal vertical section.

Similar letters indicate like parts.

A is a stout frame, constructed in the manner usual for such machines, and provided with a feed-hopper, B, at the top. The discharge-opening in this hopper is regulated for the size or quantity of grain by a sliding gate, C, which is operated by means of a lever, D, which is pivoted to its center and extends just outside the machine, where a connecting-rod, E, attaches it to the hand-lever F, by which it is easily operated. The fan G is situated at one end of the machine, as shown, and is driven by a belt which extends from the pulley H to the pulley I on the fan-shaft. The pulley H is set in a frame, J, which is movable about a point of support or fulcrum at the bottom. A bolt with a nut, K, extends through the upper part of the frame J, and this serves to clamp it to the frame A at any point which a proper tension of the belt renders necessary. The blast from the fan is driven upward and backward through the screens L, which are five in number, and are placed in any well-known manner in the shoe M. The shoe is suspended at the front end by links N, which depend from the upper part of the frame A, and attached to the shoe nearly midway between the top and bottom. The rear end of the shoe is attached to rigid hangers or arms N' from the transverse shaft O, and through these the shoe receives its motion. The screens L are fitted to the shoe

so as to have a certain relative inclination determined by the best results obtained.

The angle of the shoe and screens together is changed by the following mechanism: The shaft O is supported by and has its journals in the ends of the levers P, one at each side of the machine. These levers have their fulcrums secured to the sides of the frame A, and extend forward to a point where leather straps Q, or other suitable device, connect them with a shaft, R, beneath the shoe. A wheel or lever, S, at one end serves to rotate the shaft, thus winding or unwinding the straps and operating the levers P, so as to elevate or depress the rear end of the shoe for slow or fast work. A ratchet and pawl, T, serves to secure the shaft at any desired point.

A great difficulty heretofore encountered in the operation of cleaning grain is the clogging of the cheat-screen by grains which are just large enough to enter the holes in the screen, and, by sticking there, they detain others till a large portion of the surface is filled and choked up, rendering it necessary to frequently take out the screen to clean it.

In order to obviate this difficulty, I attach to this screen an oblong slotted plate, h. The slot in this plate receives a pin on the end of the connecting-rod i. This arm is operated by a crank-arm, m, extending upward from the shaft O, so that while the screen-frame is operated in one direction by the arms N' the rod i will be moved in an opposite direction. The slot in the plate h is a very little shorter than the throw of the screen-frame, so that the pin which works in it will strike a sudden blow at each end of the movement, and the quick and rapid jarring movement effectually clears the screen and prevents its clogging.

The device for giving motion to the shoe is as follows: An eccentric, U, is secured to one end of the fan-shaft. This eccentric has grooves a formed in both its sides concentric with its periphery, but having the same eccentricity to the shaft. The rod V lies horizontally, and moves forward and back through the guides W. The end of this rod forms a fork, of which one arm passes each side of the eccentric. Pins x, either with or without friction-rollers, extend from the arms into the grooves a, and when the eccentric is turned the rod V receives a for-

ward and backward motion. An arm, Y, with holes, or otherwise graduated, projects upward from one end of the shaft O, and a connecting-rod or pitman, Z, communicates motion from the rod V to the arm Y, shaft O, and the shoe containing the screens. By this arrangement I am enabled to obviate the oscillating motion due to a crank or ordinary eccentric.

The movement is also applicable to other forms of mechanism, as motion can be communicated from the rod V to the eccentric in the same manner as to a crank, while, as in the case of a steam-engine, the connecting-rod can be dispensed with. The screens L are so placed in the shoe that the barley is discharged into a hopper, b, and passes into a sack directly beneath.

The good wheat enters a chute, which conveys it to a sack at one side, while the cheat passes down another chute to a sack at the other side, and the mustard enters a sack beneath the machine toward the front, the whole operation being completed at once, and in a rapid and effectual manner.

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

1. The eccentric U, with its double side grooves *a a*, and the rod V, pitman Z, and arm Y, combined and arranged for giving a direct movement to the shoe without vertical oscillation, substantially as herein described.

2. The levers P, straps Q, and shaft R, with the operating and holding device for elevating and changing the angle of the shoe, all combined and arranged substantially as described.

3. The slotted plate *h* and the rod *i*, operated from the shaft O, arranged, as described, to give a sudden jarring motion to the cheat-screen, substantially as and for the purpose set forth.

In witness whereof I have hereunto set my hand.

GARLAND A. DABNEY.

Witnesses:

PHILIP MAHLER,
GEO. H. STRONG.