C. M. VAN ORMAN & J. M. HAGENBAUGH.

Grain-Separator.

No. 209,435. Patented Oct. 29, 1878.

Fig: 1.

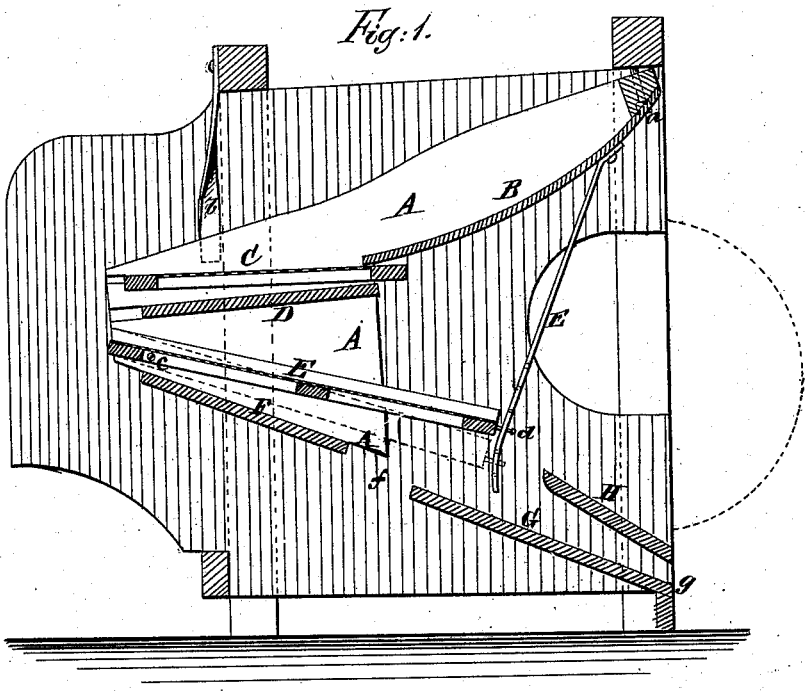
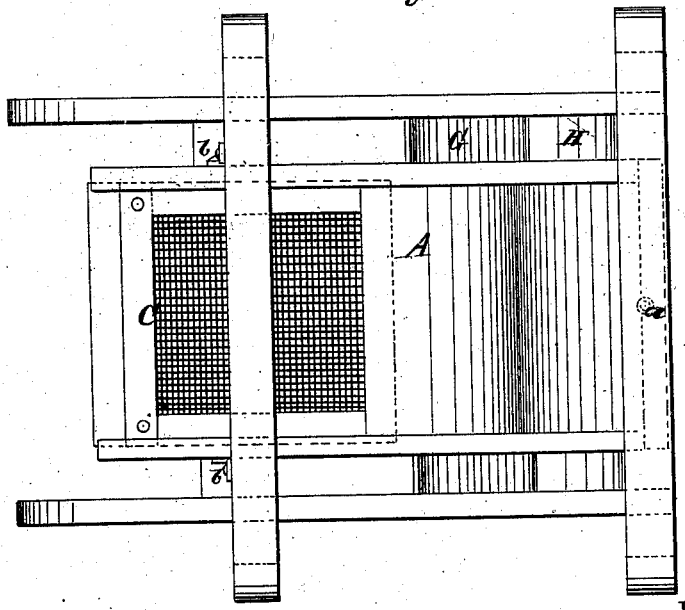


Fig: 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CLAYTON M. VAN ORMAN AND JAMES M. HAGENBAUGH, OF ATHENS, MICHIGAN, ASSIGNORS TO THEMSELVES AND THOMAS H. CAVE, OF SAME PLACE.

IMPROVEMENT IN GRAIN-SEPARATORS.

Specification forming part of Letters Patent No. **209,435**, dated October 29, 1878; application filed July 31, 1878.

To all whom it may concern:

Be it known that we, CLAYTON MARIE VAN ORMAN and JAMES MADISON HAGENBAUGH, of Athens, in the county of Calhoun and State of Michigan, have invented a new and Improved Fanning-Mill, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical section of the forward part of a fanning-mill constructed according to our invention. Fig. 2 is a top view of the same.

Similar letters of reference indicate corresponding parts.

The object of our invention is to provide a so improved combination and arrangement of the screens, feed-board, and blast of a fanning-mill as to effect the thorough removal from grains of all impurities, and by the use of only two screens.

A is the vibrating shoe of the fanning-mill, and is suspended from the frame of the latter by a pivot, *a*, and side straps *b*, in the usual manner. B is the chute leading the grain from the hopper to the feed-board. C is a coarse screen placed in inclined grooves in the sides of the shoe, in the usual place of the ordinary feed-board, to receive the grain from the chute B from the hopper. The screen C, being inclined to the front of the shoe, removes all straw and other coarse substances from the wheat or other grain, the latter falling through the screen C before coming on the feed-board.

D is the feed-board, placed under the screen C in grooves allowing it to be moved back and forward to adjust its position for conveying the grain to and letting it fall upon the forward upper end of the lower screen, E. The rear end of the feed-board D extends back under the chute B. The lower screen or cockle-screen, E, is pivoted on opposite sides at its front end by screws or pins *c*, and its rear end bar is provided with a pin, *d*, by which it is supported in one or other of a series of holes in the lower part of a strap, *e*, secured with its upper end to the under side of the chute B. By the perforated strap *e* and the pin *d* the screen E may be raised or lowered and held at any desired inclination, according to the length of time required to retain the wheat or grain upon the screen to allow cockle and other seeds to be shaken through the screen by the motion of the mill. The said impurities fall on the inclined board F, and are discharged through the opening *f*. The good seeds of wheat or other grain fall off the rear end of the cockle-screen onto the inclined board G, and are discharged at *g*.

H is a wind-chute fixed in continuation with the fan-case, and constituting the lower side of the blast-opening of the fan. The chute H is so arranged that when the cockle-screen is in the position shown in dotted lines the blast will be directed in an unbroken volume against the under side of the forward end of the feed-board, and, deflected from the same, will strike the wheat or grain as the latter falls from the feed-board onto the lower screen and blow off from it all light substances, such as chaff, oats, chess, and other impurities, allowing only heavier bodies, such as wheat, corn, rye, cockle, and grass-seed, &c., to fall upon the lower screen.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The combination, in the shaking-shoe A, of the top screen, C, the conveyer-board D, the adjustably-inclined screen, E, pivoted at its outer end, and the wind-board H, all relatively arranged and operating substantially as and for the purpose specified.

CLAYTON MARIE VAN ORMAN.
JAMES MADISON HAGENBAUGH.

Witnesses:
MALEIR W. HOBART,
W. H. BOND.