A. J. HOAG.

Grain Thrasher and Separator.

No. 207,418. Patented Aug. 27, 1878.

Fig. 1.

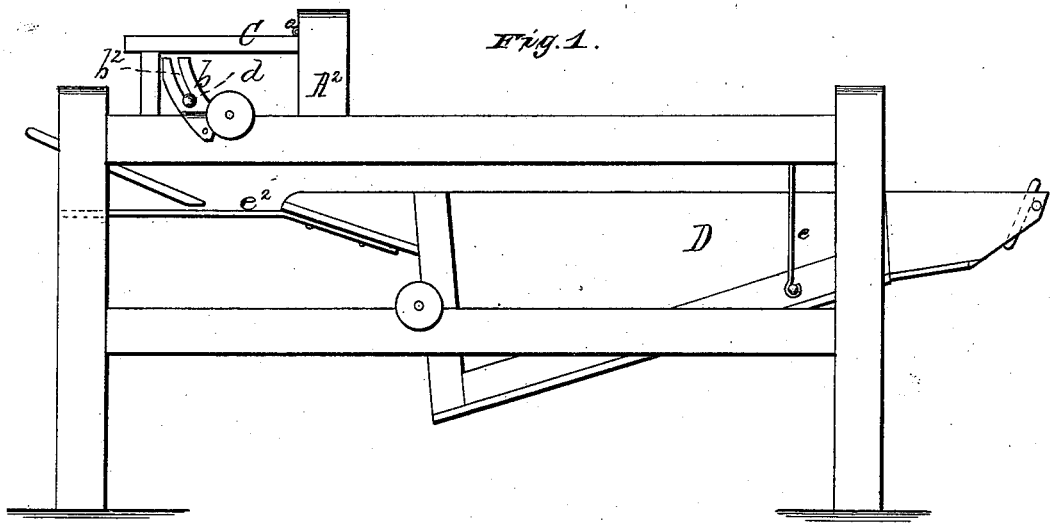


Fig. 2.

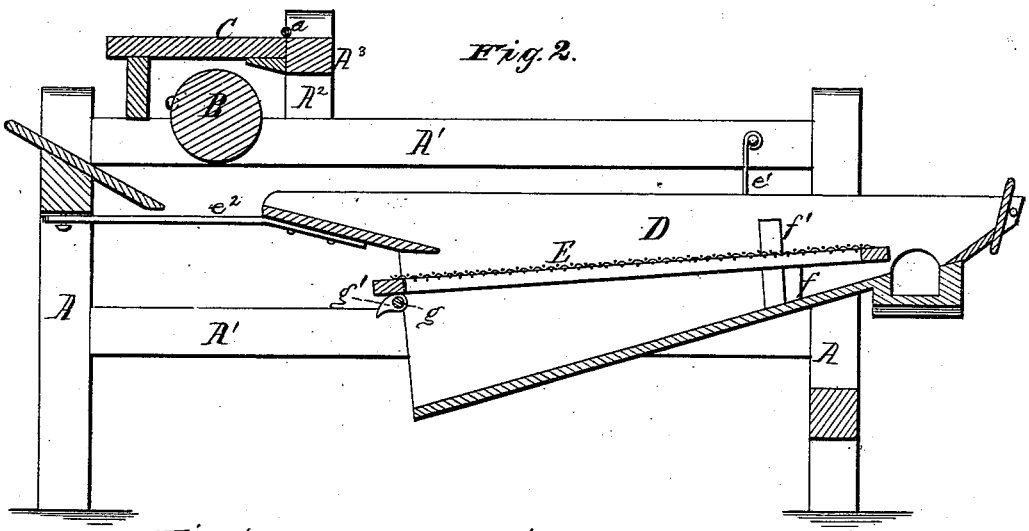


Fig. 4.

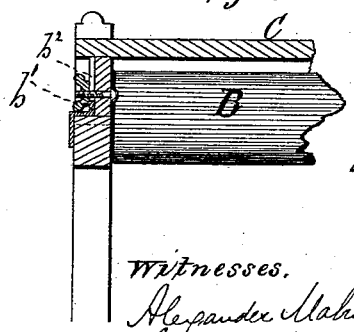
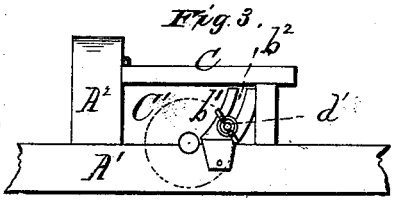


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

ANDREW J. HOAG, OF BATTLE CREEK, MICHIGAN.

IMPROVEMENT IN GRAIN THRASHER AND SEPARATOR.

Specification forming part of Letters Patent No. **207,418**, dated August 27, 1878; application filed June 22, 1878.

To all whom it may concern:

Be it known that I, ANDREW J. HOAG, of Battle Creek, county of Calhoun, State of Michigan, have invented certain new and useful Improvements in Grain Thrasher and Separator, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side elevation of a portion of a thrashing-machine and grain-separator with my improvements applied. Fig. 2 is a vertical longitudinal section through the same. Fig. 3 is a side elevation of the hinged hood or cover to the thrashing-cylinder, and Fig. 4 a transverse section through a portion of the same.

Similar letters of reference denote corresponding parts wherever used.

My invention consists, first, in hinging the hood or cover to the thrashing-cylinder and making it adjustable for giving access to the cylinder, and also for adjusting or regulating the throat or space between it and the cylinder and concave, according as the nature of the grain operated upon may require; and, secondly, in a novel means for vibrating the riddle or sieve, and facilitating the cleaning and separation of the grain from the chaff and foul stuff, as hereinafter explained.

The machine, in its organization and general arrangement of parts, may be similar to machines now in use, and need not therefore be described in detail further than is necessary to an understanding of my improvements.

In the accompanying drawings, A A^1 represent an upright frame-work of suitable construction for the purpose for which it is intended, and B is the thrashing-cylinder, the shaft of which is mounted in bearings near one end of the longitudinal frame-bars A^1. Uprights A^2 are secured to the side frame-timbers, A^1, just back of the cylinder, said uprights being connected by a transverse bar, A^3, said parts, in connection with the side bars, A^1, forming a support for the hood or cover C to the cylinder B. This hood or cover may be made in any usual or preferred form, for closing upon or covering the top and ends, and partly the front, of the cylinder, leaving the usual throat in front for feeding the grain thereto, but, instead of being rigidly fastened to the frame, in the usual manner, is hinged, by its rear upper corner, to the uprights A^2 or transverse bar A^3 in such manner that it can be raised in front, turning upon hinges *a*, for giving access to the cylinder or increased space between it and the cylinder and thrashing-concave, as may be required.

b b^1 are uprights secured to the frame-bars A^1 at the sides of the hinged cover C, and provided with slots b^2, formed in the arc of a circle centering in the hinge or pivot to the cover C. Pins *d* *d'* are attached to the side pieces, C', of the cover; or, if preferred, a through-rod may be employed, passing transversely through the cover, the projecting ends passing through the slots in the standards *b*. One of these pins, or one end of the rod, may be provided with a head and the other with a thumb-nut, or both may be provided with nuts or equivalent device for holding the cover at any desired point of adjustment. The slots b^2 are open at their upper ends, permitting the pins to pass out when it is desired to fold the cover out of the way for giving access to the cylinder.

D represents the shoe, made in any usual or preferred form, and suspended at its rear or discharging end upon pendent links *e* e^1, which permit its vibration, its forward end being either similarly supported or connected by a longitudinal strap, e^2, with the forward transverse frame-bar, as shown. E is a riddle or screen arranged within the shoe or separator-frame, underneath the straw carrier or separator, (not shown,) which may be of any usual or preferred construction, the riddle receiving the grain therefrom. The rear or discharging end of this riddle is supported upon uprights or pivotal blocks *f*, or an equivalent device, permitting the vertical vibration of the riddle, and the forward end is supported upon a transverse shaft, *g*, provided with angular cams *g'*, which, as the shaft is rotated or rocked back and forth, impart a rapid rising and falling movement or vertical vibration to said end, for shaking or giving a tossing movement to the grain and chaff thereon, and facilitating the cleaning and winnowing of the grain. Cams of any suitable form may be employed, and they may be made removable from the shaft, adapting them to be substituted by

other cams of different form, for giving either a greater or a more rapid vibration to the screen, as the character or condition of the crop may require. If preferred, the shaft may be driven by pulleys of different sizes, thus giving it greater or less speed and varying the motion of the screen.

Motion is imparted to the shaft from any convenient driving-shaft, and any suitable arrangement of gearing, pulleys, and belt, or crank-arms and connecting-rod, may be employed for the purpose.

Endwise movement of the screen is prevented by uprights f' engaging with notches in the side bars of the separator-frame, or by other suitable device for that purpose.

Parts of the machine not particularly described may be constructed in any usual or preferred way.

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

1. The combination, with the thrashing-cylinder, of the adjustable hood or cover for giving access to the cylinder, and permitting its adjustment for regulating the feed-opening and the space between the cylinder and cover, substantially as described.

2. The hinged cover C, in combination with the standards b b^1, having the open slots, and means for holding the cover at any desired adjustment, whereby the cover can be folded over for giving access to the cylinder, or set at any desired adjustment, without removing the fastening devices, substantially as described.

3. In a grain thrasher and separator, the vertically-vibrating riddle or screen, supported at its forward or receiving end on a shaft, g, in combination with the angular cams g' on said shaft, for imparting the vertical vibration to the screen, substantially as described.

ANDREW J. HOAG.

Witnesses:
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