S. E. ADAMS.

Grain Separator.

No. 201,975. Patented April 2, 1878.

Fig. 1.

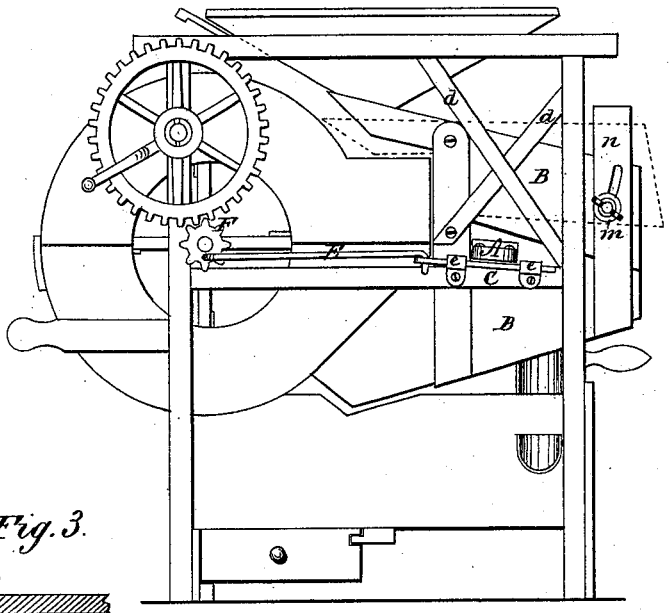


Fig. 4.

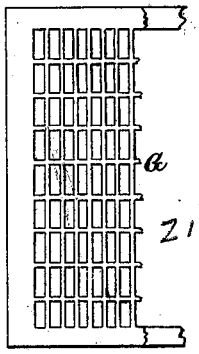


Fig. 3.

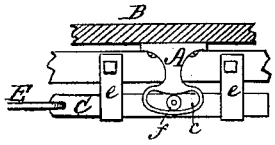
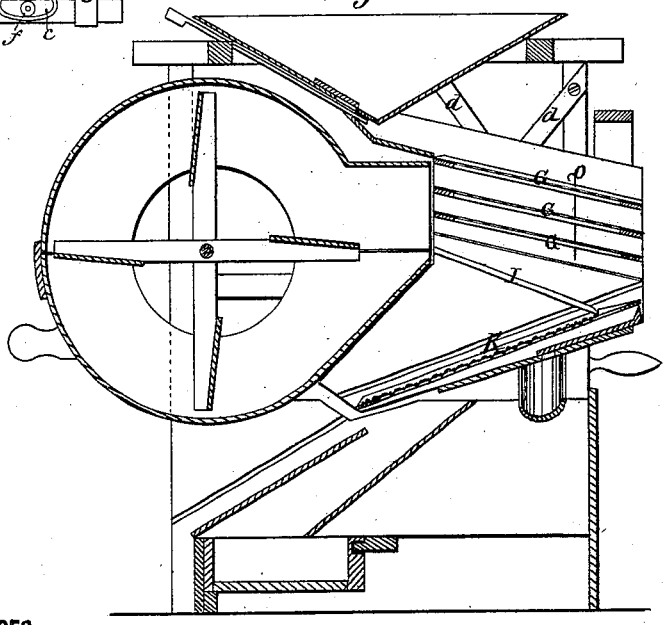


Fig. 2.



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UNITED STATES PATENT OFFICE.

SAMUEL E. ADAMS, OF PLAIN VIEW, ASSIGNOR TO CORNELIUS ALLISON, OF FARIBAULT, MINNESOTA.

IMPROVEMENT IN GRAIN-SEPARATORS.

Specification forming part of Letters Patent No. **201,975**, dated April 2, 1878; application filed December 29, 1877.

To all whom it may concern:

Be it known that I, SAMUEL E. ADAMS, of Plain View, in the county of Wabasha and State of Minnesota, have invented a new and useful Improvement in Grain-Separators; and I do hereby declare that the following is a full, clear, and exact description of the same.

The invention is an improvement in the class of grain-separators in which the frame or shoe containing the sieves or screens is vibrated by a bell-crank lever and a connecting-rod, which extends back to the fan-shaft.

The object of the invention is to operate such frame or shoe with minimum friction and with less expenditure of power than heretofore. To this end the construction and arrangement of parts are as hereinafter described and claimed.

In the accompanying drawing, forming part of this specification, Figure 1 is side elevation, and Fig. 2 a sectional elevation, of my improved grain-separator. Figs. 3 and 4 are detail views.

A bracket, A, having a curved slot, *c*, is attached to the side of the shoe B, which contains the sieves, and is suspended in the frame of the mill by means of elastic straps *d*. A bar, C, is arranged to reciprocate endwise and horizontally in slotted guides *e*, which are attached to the frame of the machine at points respectively equidistant from the bracket A. A stud, *f*, carrying a friction-roller, projects from the upper side of the bar C and works in curved slot *c* of the bracket. The bar is connected by a rod, E, with the pinion F, fixed on the end of the fan-shaft. Thus the rotation of the latter causes the reciprocation of the bar C in its guides, and a corresponding lateral vibration of the shoe B, there being two complete vibratory movements of the shoe for each rotation of the fan-shaft, in place of one, as by the mechanism ordinarily employed. The vibration or cam motion of the shoe is thus produced with very slight friction and a small expenditure of power. The curvature of the slot produces a variation of the speed of the motion at the different points of said motion, producing a jerk at each reciprocation, which facilitates the passage of the grain.

The three sieves G, constituting what is denominated a "gang," and arranged in the adjustable upper section of the shoe, are formed of plates of zinc, having oblong rectangular holes arranged with their larger sides at right angles to the sides of the shoe.

The gang-section is pivoted at *i*, and its front end is adjustable vertically by means of screw-bolts *m*, which pass through curved slots in the bars *n* attached to the shoe proper.

The sieves H are secured in the gang-section by means of a rod, *o*, passing vertically through their ends, as shown.

The grain-board I is arranged in an inclined position, to carry the grain back to the rear side of the wire screen K.

What I claim is—

The combination, with the bracket rigidly secured to the separator-shoe, and formed with the curved slot, of the fan-shaft, link, and bar C, provided with pin *f*, and reciprocating in guides, substantially as shown and described.

SAMUEL E. ADAMS.

Witnesses:

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