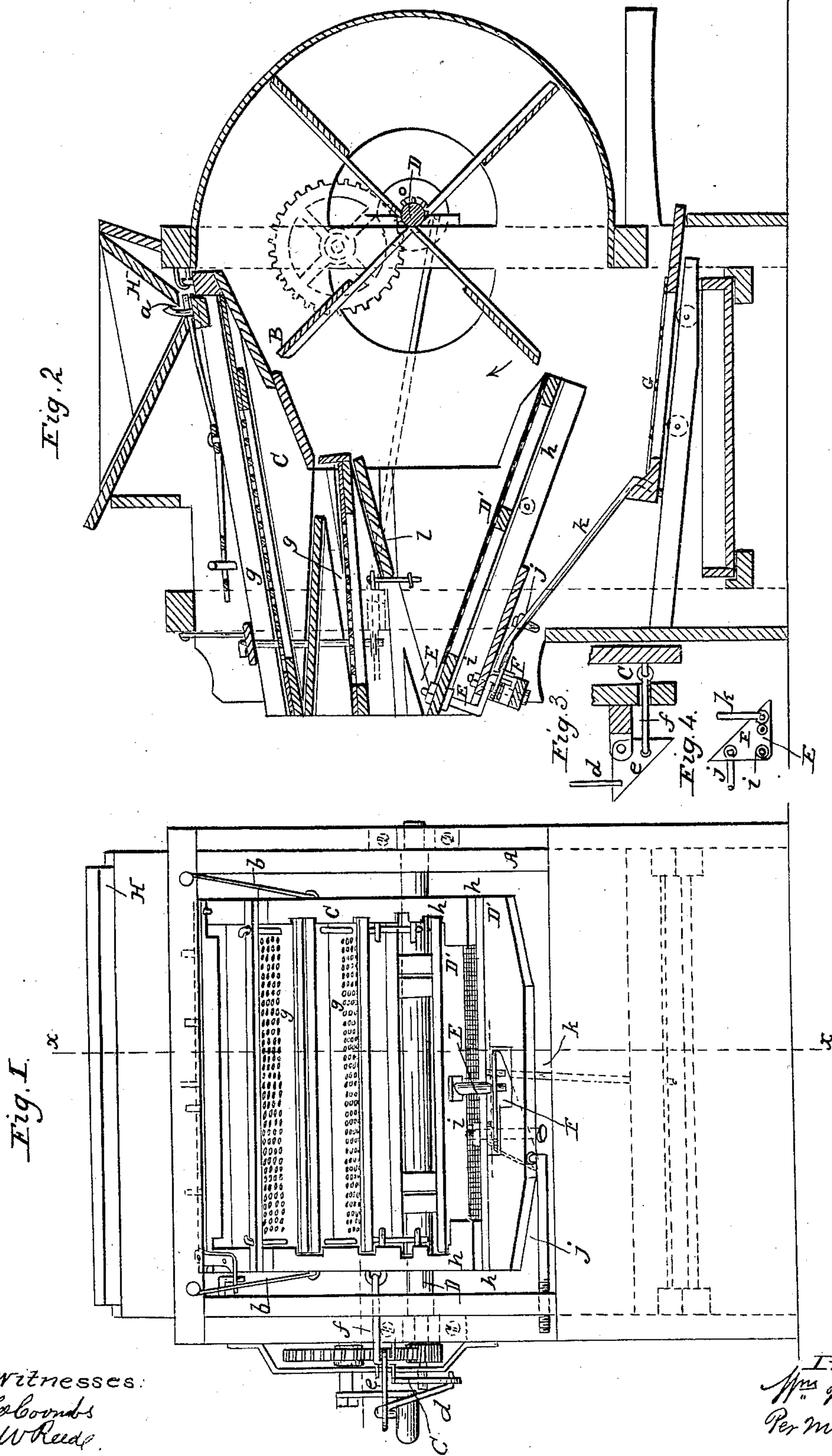


W. WICKEN.
Grain Separator.

No. 34,279.

Patented Jan. 28, 1862.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM WICKEN, OF MUSCODA, WISCONSIN.

IMPROVEMENT IN GRAIN-SEPARATORS.

Specification forming part of Letters Patent No. 34,279, dated January 28, 1862.

To all whom it may concern:

Be it known that I, WILLIAM WICKEN, of Muscoda, in the county of Grant and State of Wisconsin, have invented a new and Improved Grain-Separator; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a front elevation of my invention; Fig. 2, a side sectional view of the same, taken in the line *x x*, Fig. 1; Figs. 3 and 4, detached views of parts of the separator.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and useful improvement in grain-separators, whereby cockle and chaff may be sifted or screened from the grain in a thorough manner.

The invention consists in the employment or use of two screens, one of which is placed on the shoe of the separator and the other below it, and having a vibratory movement given it through the medium of the shoe, as hereinafter fully shown and described.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents the case or box of the separator, which may be constructed in the ordinary way and provided with a rotary fan B, placed within the case A and arranged as usual.

C is a shoe which is suspended within the case or box A by a link *a* at its back end and rods *b b* at its front end. This shoe is allowed to swing laterally in the case A, and it is operated from the fan-shaft D by means of a crank-wheel *c*, connecting-rod *d*, bell-crank *e*, and link *f*, parts usually employed for such purpose and all shown in Fig. 1.

The shoe C is provided at its upper part with zinc screens *g*, which are employed for separating oats from wheat when the latter grain is mixed with the former. These screens *g* may be dispensed with and others substituted when the wheat to be cleansed does not contain oats. In the lower part of the shoe C there is placed a screen D', which is inclined downward from its front to its back end, as shown in Fig. 2. The screen D' is

fitted in grooves *h* in the sides of the shoe C, and is allowed to slide freely therein, and said screen D' is connected at its front end by a hook E to a bell-crank F, which is secured in the lower part of the shoe C by a pivot *i*. The bell-crank F is connected at one end to a rod *j*, which is attached permanently to the case A. The opposite end of the bell-crank F is connected by a rod *k* with a screen G, which is fitted in the lower part of the case or box A and is allowed to slide freely therein. The screen G, it will be understood, is not within the shoe, but below it, as clearly shown in Fig. 2.

The operation of the machine is as follows: Power is communicated to the fan-shaft D by any proper means, and the shoe C has the shake movement given it by means of the crank-wheel *c*, rod *d*, bell-crank *e*, and link *f*, previously alluded to. As the shoe C vibrates, a longitudinal reciprocating sliding movement is given the two screens D' G through the medium of the bell-crank F, hook E, and rods *j k*. The screen D' is the cockle-screen, and it will be seen that it has two movements—to wit, a lateral movement in common with the shoe C and the reciprocating sliding movement. The screen G has a reciprocating sliding movement only and is designed to separate the chaff and shrunken grain from the sound grain.

Imparting two movements to the screen D' is a very essential feature, as it effectually prevents the choking or clogging of the screen—a contingency which frequently occurs with the cockle-screen of the ordinary grain-separators—and by connecting the chaff-screen G with the bell-crank F and having the latter fitted in the shoe and connected with a stationary rod attached to the case or box both screens, it will be seen, are actuated by the vibrating movement of the shoe, and the efficiency of the separator is therefore greatly increased without an appreciable increase in the expense of construction.

The grain, it will be seen, passes from the hopper H upon the upper screen of the shoe and is conveyed by an inclined board *l* upon the cockle-screen D', which separates the cockle from the wheat, the latter falling on the screen G, which separates the chaff and

shrunk wheat from the sound grain, and is discharged at the lower or back end of screen G.

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

Operating the screens D' G and giving them a reciprocating sliding movement through the medium of the bell-crank F, fitted in the shoe

C and connected to the screens D' G by means of the hook E and rod *k*, and also to a stationary rod *j*, the screens being operated by the movement of the shoe C, all arranged in the manner described.

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Witnesses:

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