

J. G. EVANS.
Grain Separator.

No. 108,577.

Patented Oct. 25, 1870.

Fig. 1.

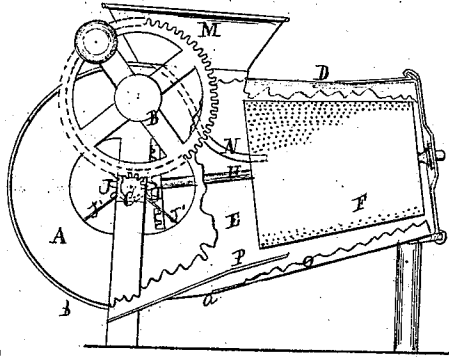


Fig. 2.

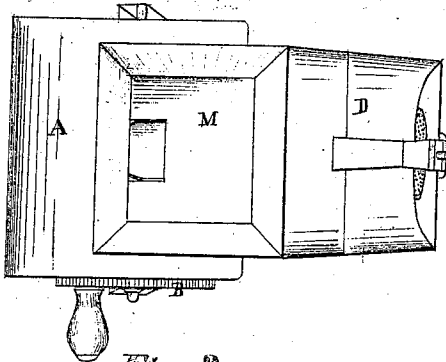


Fig. 5.

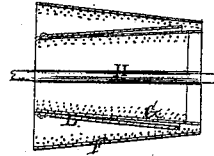


Fig. 3.

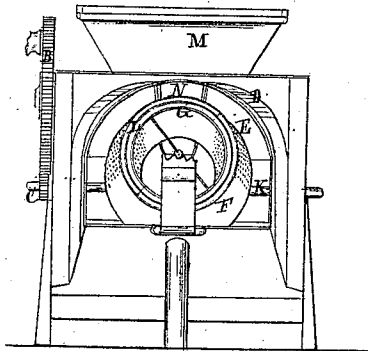
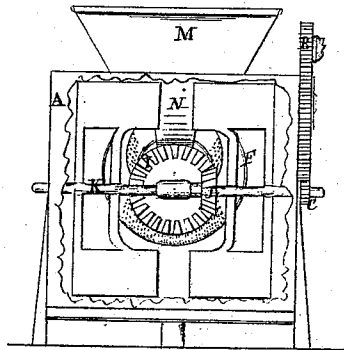


Fig. 4.



Witnesses.

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United States Patent Office.

JOHN G. EVANS, OF ORRVILLE, OHIO.

Letters Patent No. 108,577, dated October 25, 1870.

IMPROVEMENT IN GRAIN-SEPARATORS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN G. EVANS, of Orrville, in the county of Wayne and State of Ohio, have invented a certain new and improved Grain-Separator; and I do hereby declare that the following is a full, clear, and complete description of the same, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a side view of the separator.

Figure 2 is a plan view.

Figure 3 is a front view.

Figure 4 is a view of the rear end,

Figure 5 is a detached section.

Like letters of reference refer to like parts in the several views.

The nature of this invention relates to the sieves of a fanning-mill or grain-separator, and the object sought for is to obtain to said sieves a revolving action instead of the vibratory one now in general use in this class of implements, whereby the mill is caused to run steadier, and the work of cleaning the grain more completely accomplished.

In fig. 1, A represents the body of the mill, in which the fan J is mounted, and therein operated by the gearing B C in the ordinary way.

D is the mouth of the machine, and in which is journaled the conical sieves F.

A section of the mouth is represented as being broken away in order that they may be seen.

A detached transverse longitudinal section of said sieves is shown in fig. 5.

In said figure it will be observed that the sieves are two in number, an outer one, F, and an inner one, G, both of which are conical in shape, and secured to the shaft H, whereby they are revolved by the crown-wheel I, fig. 4, attached to the inner end of the shaft, and engaged to the bevel-pinion J on the shaft K of the fan J.

A section of the body is represented as being broken away so that it may be seen.

It will be observed, further, that the position of the two sieves or cones relatively to each other is such that the smaller diameter of the inner sieve or cone lies within the larger diameter of the outer cone; hence, the large diameter of the smaller cone lies within the smaller diameter of the larger one, thereby causing the dip of the outer cone or sieve to be from the outer end downward, whereas the dip of the inner cone or sieve is in the opposite direction, viz., from the inner and downward, as shown in fig. 5, the purpose of which will presently be shown.

Between the circumference of the two conical sieves,

above described, is interposed a conductor, L, figs. 3 and 5, consisting of an imperforated or plain sheet of metal. The circumference of its inner end is closely connected to the circumference of the inner end of the cone or sieve G, whereas its outer end or circumference is midway between the two cones, connected to neither, as shown in fig. 5, in which figure it will be seen that the conductor does not reach quite to the ends of the two sieves or cones, but is left somewhat shorter.

Having thus described the construction and arrangement of the machine, the practical operation of the same is as follows:

The grain to be cleaned is thrown into the hopper M, from which it is conducted to the inside of the cone or sieve G (the coarsest of the two sieves) by means of a chute, N, fig. 1.

As the fan is operated, the cones are made to revolve, thereby causing the grain to fall through the sieve as the coarser stuff is carried onward to the mouth, and blown therefrom by the fan.

The grain, as it falls through the sieve G, drops upon the plain conductor L, and is carried forward thereon and dropped from its outer edge into the cone or sieve F, which, being finer than the grain, allows only the chaff and other like seeds smaller than the grain to fall through into the bottom O of the mouth, down which it slides, and drops therefrom at the point a to the flow or screen-box provided for that purpose, whereas the grain flows back over the sieve and drops therefrom into the incline P, down which it runs to the floor at the point b at the back of the mill, free from chaff and foul material, and in a much better condition for the market than it can be made by the use of the ordinary fanning-mill.

In consequence of there being no vibratory or shaking motion of the sieves, but, on the contrary, a continuous rotating motion, the mill stands steadier, and runs with less power than the mill in common use.

Claim.

What I claim as my invention, and desire to secure by Letters Patent, is—

In the grain-separator, constructed substantially as herein described, the interposed imperforate cylinder L, in combination with the conical perforated cylinders F and G, as and for the purposes herein set forth.

JOHN G. EVANS.

Witnesses:

W. H. BURRIDGE,
J. S. EVANS.