G. ECKLES.

Grain-Separators.

No. 203,717. Patented May 14, 1878.

Fig. 1.

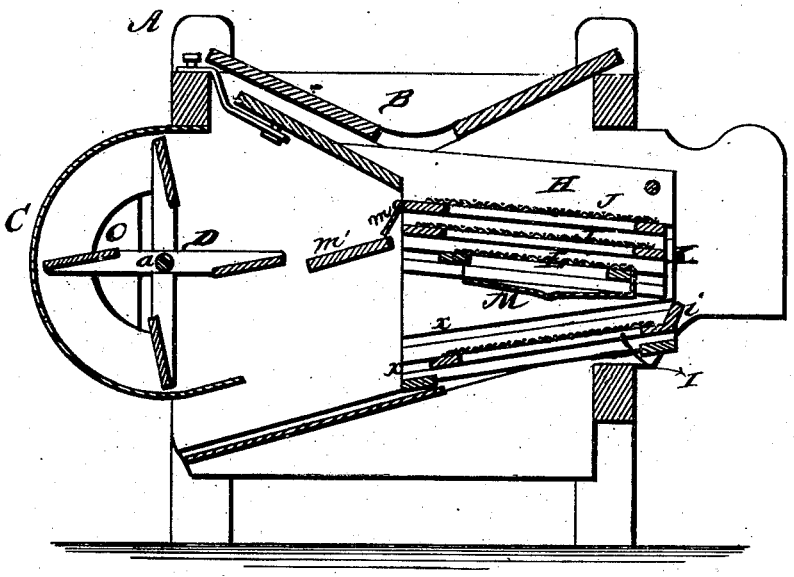


Fig. 2.

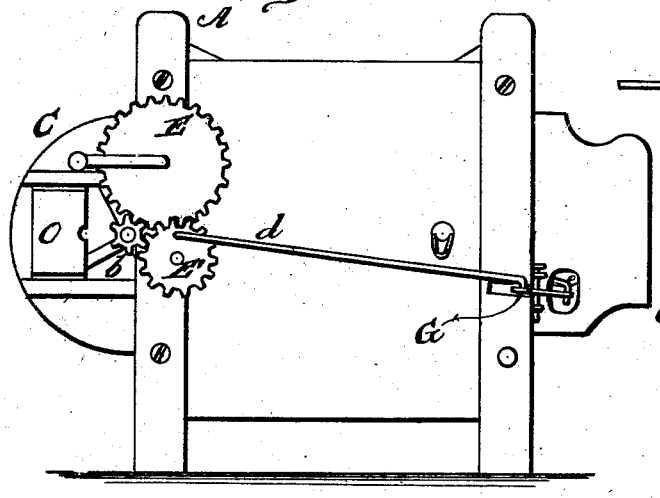
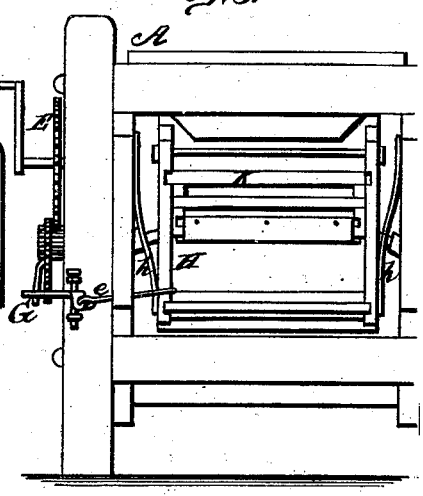
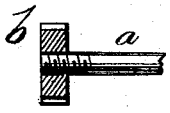


Fig. 3.





WITNESSES

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GEORGE ECKLES, OF DOVER CENTRE, MINNESOTA.

IMPROVEMENT IN GRAIN-SEPARATORS.

Specification forming part of Letters Patent No. **203,717**, dated May 14, 1878; application filed October 27, 1877.

To all whom it may concern:

Be it known that I, GEORGE ECKLES, of Dover Centre, in the county of Olmsted and State of Minnesota, have invented a new and valuable Improvement in Fanning-Mills; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a longitudinal vertical sectional view of my fanning-mill. Fig. 2 is a side view, and Fig. 3 is an end view thereof.

The nature of my invention consists in certain improvements in fanning-mills, as will be hereinafter more fully set forth and claimed.

The annexed drawings, to which reference is made, fully illustrate my invention.

A represents the frame of my fanning-mill, with hopper B at the top. At one end is the fan-case C, with the ordinary fan D secured upon the shaft *a*. One end of the fan-shaft *a* projects beyond the side of the frame A, and is provided with screw-threads to receive a pinion, *b*, screwed thereon. By connecting the pinion *b* with the end of the shaft *a* by screw-threads, said pinion can be easily removed and a larger or smaller pinion substituted, according to the speed required. This pinion is rotated by means of a cog-wheel, E, provided with a crank, and mounted on a stud attached to the frame. The pinion *b* further meshes with a cog-wheel, E′, having a pitman-rod, *d*, connected to it, which rod connects with an elbow or crank lever, G, pivoted at its angle near the front of the frame. The other arm of this crank-lever is, by a rod, *e*, connected with the shoe H, said shoe being suspended, by springs *h h*, within the main frame A. In the bottom of the shoe H is a sieve or screen, I, provided at the top, on its upper end, with a dividing board or strip, *i*, extending above the screen, so that the blast from the fan will blow the light wheat, dirt, and seeds over said divider, and thus making the machine a complete fan and blower combined. This bottom screen may be inserted in either of two sets of grooves, *x x*, made in the sides of the shoe to receive it. The top groove is used for a common fanning-mill and the lower groove for blowers, as required. Above the bottom screen I in the shoe is inserted a sliding frame, K, containing two stationary sieves, J J, and below these sieves is a movable sieve, L, placed in grooves in the sides of the frame. Below this latter sieve is a board, M, permanently attached to the frame. The sieve L forms a conveyer, and the board M underneath conveys seeds, &c., clear of the tailings. At the lower or inner end of the frame K, between the inclined feed-board of the shoe and the upwardly-inclined deflector *m′*, and in front of two stationary sieves, J J, is hinged a valve or door, *m*, which is used for the purpose of shutting off the blast from the grain on the sieves when such blast may not be needed. At each end of the fan-case C is a slide, O, to be opened or closed, as desired, for more or less blast.

By the conjoint use of the valve *m* and the sieve I with the divider *i*, which may be pulled out and in, as well as set vertically, the grading of the lighter grain blown over the rear edge of the upper sieves J J can be accurately regulated; and if the valve *m* be closed, the blast is practically confined in its escape to the space below deflecting-board *m′*. The inclined divider *i* becomes in this case a deflector, and the blast is directed upward at an angle, throwing the chaff and light matters some distance clear of the machine.

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

The shoe H of a fanning-machine, provided with grooves *x x*, a removable screen, I, having an inclined back, *i*, rigid therewith, screens J J L, pivoted cut-off *m*, and fixed deflector *m′*, for regulating the distribution of the blast upon the upper and lower screens according to the treatment desired for the grain, as herein specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

GEORGE ECKLES.

Witnesses:

L. COPPERSMITH,

C. H. HAWLEY.