

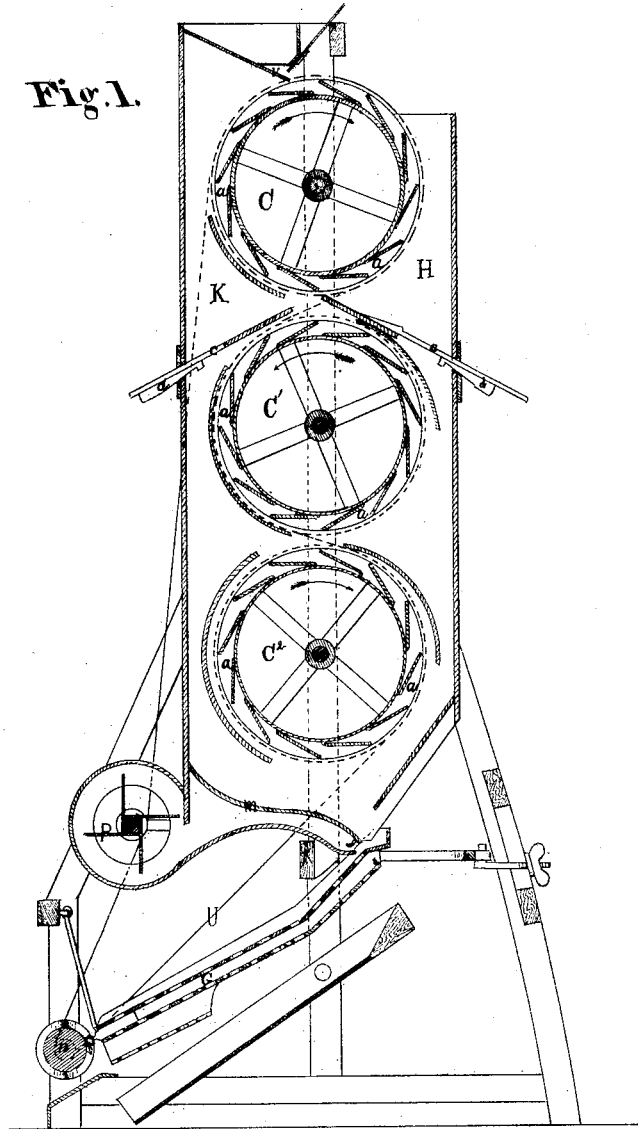
J. STERNBERG,
Grain Cleaner.

2 Sheets—Sheet 1.

No. 112,087.

Patented Feb. 21, 1871.

Fig. 1.



Witnesses.
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Fig. 2.

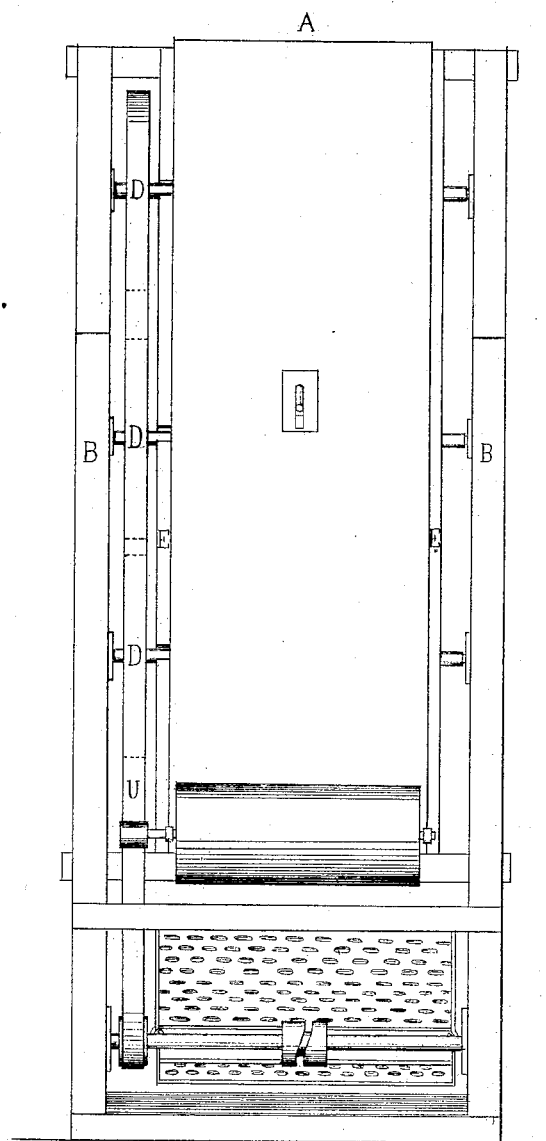
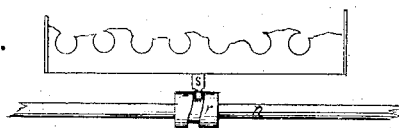


Fig. 3.



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United States Patent Office.

JAY STERNBERG, OF WEBSTER CITY, IOWA.

Letters Patent No. 112,087, dated February 21, 1871.

IMPROVEMENT IN GRAIN-CLEANING MACHINES.

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, JAY STERNBERG, of Webster City, in the county of Hamilton and State of Iowa, have invented a new and valuable Improvement in Grain-cleaning Machines; 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 drawing making a part of this specification and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a vertical section of my apparatus;

Figure 2 is an external view thereof; and

Figure 3 is a detail.

My invention relates to means for cleaning wheat and other grains, and consists in the novel construction and arrangement of devices intended to serve as an efficient apparatus by which the weight of the grain is made to serve as a motor for separating it from chaff, straw, earth, and other impurities.

A of the drawing represents a frame, of which the posts B B form the vertical centers, one on each side, as shown.

C, C', and C'' represent rotating drums, with journals at each end, that have their bearings, respectively, in the central upright posts B.

I also attach a belt-pulley to each of these drums, as shown, and arrange supporting-standards for the journals, as shown.

The belt-pulleys are indicated by the letters D, and the supporting-standards by E on the drawing.

Upon the periphery of each drum, C, I arrange a series of buckets, marked *a*, which are constructed somewhat similar to the horizontal buckets of an over-shot water-wheel; but I find it desirable to round off the extreme lower points thereof, so that small grain shall not lodge therein.

It is also desirable to place more of these buckets upon the upper drum than upon those below it, to aid in carrying off the coarser impurities over the top of the side-box, and prevent it from passing downward upon the lower drums.

The upper drum should also have a smaller diameter and length than the lower ones, for the same purpose.

The letters *c* represent cut-offs or guides, which I interpose between the two upper wheels, and make them adjustable by means of the keys or wedges, *d*.

The office of these cut-offs is to enable the operator to guard against too great fall of grain upon the lower drums and regulate the speed thereof.

The letter G represents a sieve, placed in a diagonal position, as shown, below the lower drum, and arranged for shaking or vibrating sidewise, by means of the shaft *n*, cam *r*, and arm *s*, as hereinafter mentioned.

The letter H represents a box, open at its top, bottom, and inner side, and adapted to fit up closely over one side of the vertical drums, as shown.

The lower end of this box is rounded inward, and serves as a conductor of the grain from the lower drum upon the sieve.

The letter K represents a similar box to the one described above, except in the following particulars, namely:

I construct the top of box K in the shape of a hopper or funnel, and arrange below the mouth of such hopper a guide-plate, *v*, to conduct the grain into the buckets of the upper drum, as shown.

I construct the bottom of box K with a rounded apron, *m*, to conduct the grain to the sieve.

The letter P represents a fan, arranged in the frame, as shown, and adapted for blowing the grain as it passes into or upon the sieve.

A belt, U, is passed around the pulleys of the respective drums and fan-wheel, and operates the same simultaneously.

I find by experiment that the fan P may sometimes be omitted from the mechanism without detracting from its efficiency.

My device is operated as follows, to wit:

The grain to be cleaned is passed into the hopper of box K, from which it passes down the guide-plate *v* and into the buckets of the upper drum.

The weight of the grain in said buckets causes the drum to rotate, and the belt U begins to operate the lower drums.

The grain passes through the buckets of the several drums, (which buckets, by crossing the belt properly over its pulleys, are made to rotate to the right or left at will,) and deposits it upon the sieve, when it is sifted and winnowed, or sifted alone, as may be desirable.

The cam upon the shaft *n* may be placed at one end of the sieve, and the arm *s* adapted thereto without injury, and only one or two operating drums may be used profitably.

I claim as my invention—

1. The combination of the drums C, having buckets *a*, as described, the boxes H K, and cut-offs *c*, substantially as specified.

2. In combination with the drums C and operating-belt, as described, the shaft *n*, cam *r*, and arm *s*, constructed and arranged to operate substantially as and for the purpose specified.

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

JAY STERNBERG.

Witnesses:

D. D. KANE,
F. B. CURTIS.