W. TOEPFER.

Grain-Separator.

No. 161,179 Patented March 23, 1875.

Fig: 1.

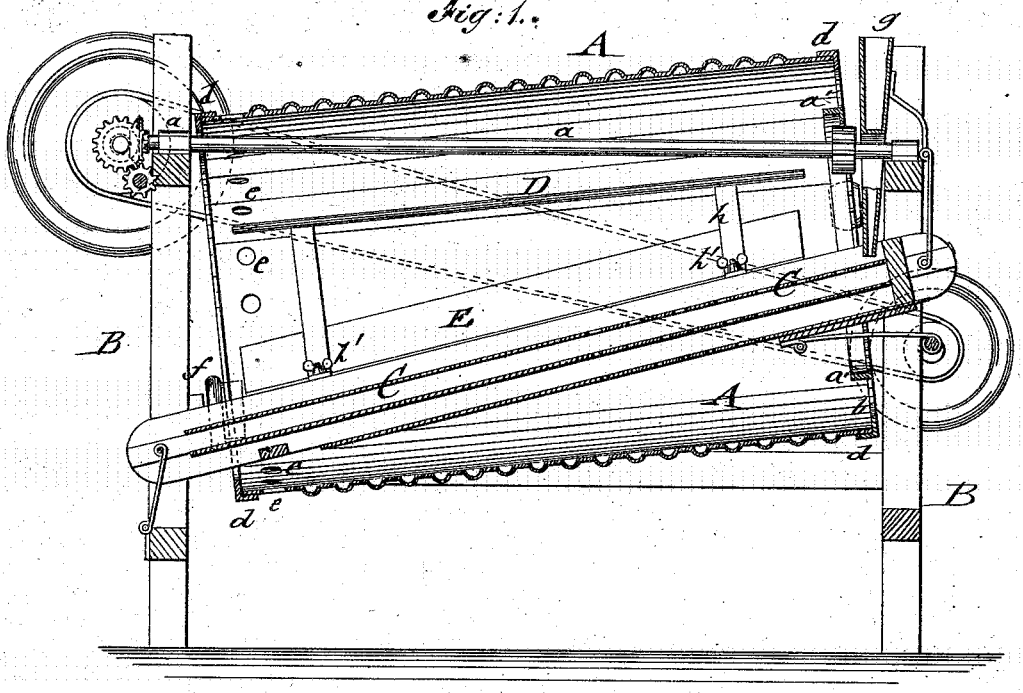


Fig: 2.

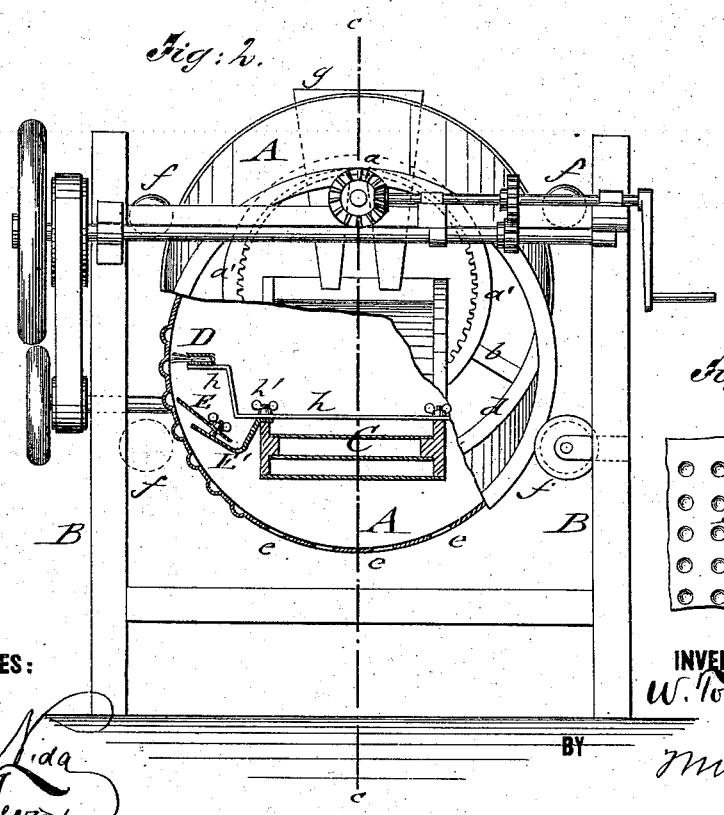
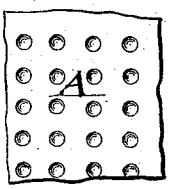


Fig: 3.



WITNESSES:

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WENZEL TOEPFER, OF MILWAUKEE, WISCONSIN.

IMPROVEMENT IN GRAIN-SEPARATORS.

Specification forming part of Letters Patent No. **161,179**, dated March 23, 1875; application filed January 18, 1874.

To all whom it may concern:

Be it known that I, W. TOEPFER, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Grain Cleaner and Separator, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical longitudinal section on the line *c c*, Fig. 2, of my improved grain cleaner and separator; Fig. 2, an end view of the same, partly in section, and Fig. 3 is a portion of the revolving cylinder, showing the indented surface of the same.

Similar letters of reference indicate corresponding parts.

My invention relates to certain improvements in machines for separating and cleaning grain; and it consists in the combination of an inner brush, its adjustable supporting-arms and binding-screws, and the vibrating sieve contained with the cylinder, whereby the motion of the sieve is imparted to the brush to give it a longitudinally-reciprocating motion. It also consists in an inclined adjustable blade, attached to and moving with a trough for receiving the impurities and conducting them away.

A longitudinal brush, with blade and trough, is attached to and moving with the sieves, and placed along the inner side wall of the cylinder for cleaning the indentations from the impurities gathered therein and carrying them off.

In the drawing, A represents the main cylinder or drum, which is supported at suitable inclinations on a frame, B, and rotated, by hand or other driving power, by means of a shaft, with gear-wheels passing longitudinally from the front to the rear end of the cylinder, and intermeshing there with an open gear-wheel, *a'*, that is supported on radial arms of the circumferential, stiffening end ring *d*. The cylinder A is made of suitable sheet metal, having small concave indentations on its entire surface for the purpose of taking up therein the lighter impurities sifted through the screens. Near the flanged stiffening front ring *d* of the cylinder are, at suitable distances from each other, perforations *e*, of such size that the wheat-grains in the cylinder may readily pass to the outside. The cylinder A is guided or steadied in its motion by lower front and upper rear friction-rollers, *f*, of rubber, leather, or other elastic material. A series of sieves, supported in a frame, C, and having different perforations diminishing in size from the upper to the lower sieves, are reciprocated rapidly by suitable belt and vibrating mechanism, in connection with the driving-shaft of the cylinder, and are placed at such an inclination in longitudinal direction within the surrounding cylinder that the grain may be readily fed through a spout, *g*, at the rear end onto the top sieve, and be conveyed through and over the lower sieves. The top sieve separates all larger impurities, as straw, stones, &c., from the grain, which passes then through the next sieve where the oats, barley, &c., are separated and carried off, the grain dropping then to the lowermost sieve with smaller holes, which conveys the larger grain off and allows only the smaller grain, with the finer impurities, to pass through to the cylinder. The lighter and smaller impurities, as cockles, dust, &c., gather and fill up the indentations of the cylinder, while the smaller wheat-grains gravitate through the cylinder until finally delivered through the exit-holes *e* to the sifted wheat in a receptacle below. The dust, cockle, and other smaller seeds remain in the small concavities of the cylinder, and are carried up therewith until they reach a brush, D, which is arranged in longitudinal direction at the side of the cylinder, being adjustably applied by slotted arms *h* and set-screws *h'* to the supporting-frame of the sieves, so as to cause the vibratory motion of the sieve to be imparted directly to the brush. The dust and other impurities, &c., are thereby brushed from the indentations onto an inclined blade, E, adjustable by means of set-screws and trough E', which are both arranged below the brush, and also attached in suitable manner to the sieve-frame. The impurities are conducted on the inclined trough by the reciprocating motion imparted to the same jointly with the sieves to the outside of the cylinder.

The grain is thus completely cleaned and separated from the coarse and fine impurities by the action of the rapidly reciprocating sieves, in connection with the slow and steady motions of the outer cylinder.

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

1. The combination of the brush D, its adjustable slotted supporting-arms *h*, the binding-screws *h'*, and the sieve-frame C, substantially as and for the purpose described.

2. The inclined adjustable blade E attached to and moving with trough E', substantially as and for the purpose described.

WENZEL TOEPFER.

Witnesses:
CHAS. TOEPFER,
JAMES BROWN.