J. J. HENDRICKSON.

GRAIN-SEPARATOR.

No. 192,260. Patented June 19, 1877.

Fig 1

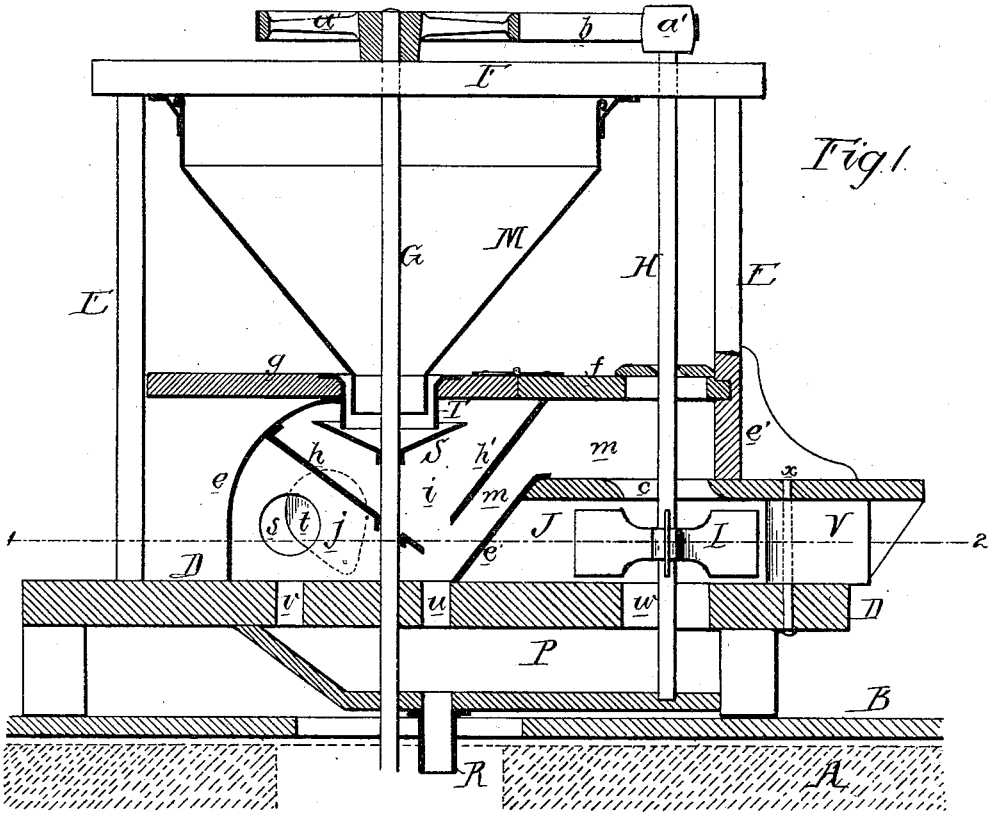
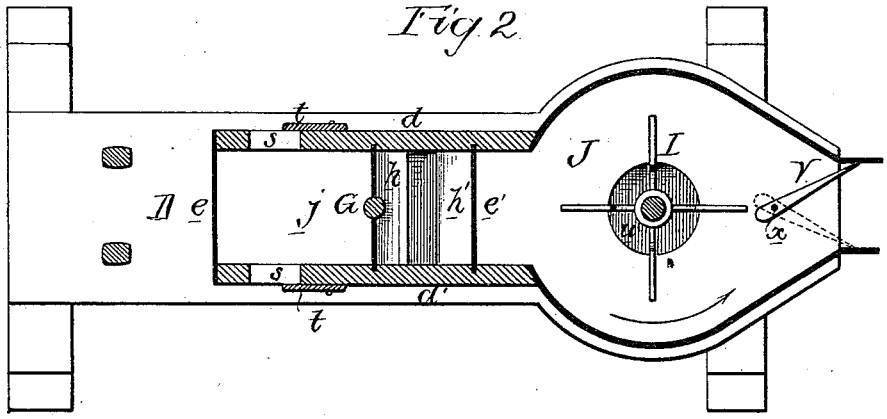


Fig 2



Witnesses

Richard L. Gardiner

Harry Smith

Inventor

Justus J. Hendrickson

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UNITED STATES PATENT OFFICE.

JUSTUS J. HENDRICKSON, OF BRIDGEPORT, PENNSYLVANIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN KINZIE, OF SAME PLACE.

IMPROVEMENT IN GRAIN-SEPARATORS.

Specification forming part of Letters Patent No. **192,260**, dated June 19, 1877; application filed February 12, 1877.

To all whom it may concern:

Be it known that I, JUSTUS J. HENDRICKSON, of Bridgeport, Montgomery county, Pennsylvania, have invented a new and useful Improvement in Devices for Cleaning Grain, of which the following is a specification:

The object of my invention is to construct a machine for effectually removing from grain before the latter is ground the impurities which are not removed by the smut-mill; and this object I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawing, in which—

Figure 1 is a vertical sectional view of my improved grain-cleaning apparatus, and Fig. 2 a sectional plan on the line 1 2, Fig. 1.

A represents the upper one of a pair of millstones, over which is arranged, in the present instance, a casing, B, which supports the frame-work of the apparatus, the latter consisting of a base, D, and uprights E, carrying a strip, F, in which are formed bearings for the upper ends of two upright shafts, G and H, the former driven from the stones and the latter deriving its movement from the shaft G through the medium of pulleys *a a'* and a belt, *b*.

The shaft H carries near its lower end a rotary fan, I, which is contained within a chamber, J, the latter communicating at the top through an opening, *c*, with a box-like space bounded by sides *d d'*, the base D, ends *e e'*, and top *f*, part of the latter being formed by a hinged lid, *g*.

This box-like space is divided by inclined plates *h h'* into the chambers *i* and *j* and a passage, *m*, the chamber *i* receiving the grain from a hopper, M, and the chamber *j* receiving air through two openings, *s*, provided with valves *t*, by adjusting which the supply of air, and consequently the force of the draft induced by the fan I, can be regulated at pleasure.

The plates *h* and *h'* are so arranged that the mouth of the chamber *j* is opposite the mouth of the passage *m*, and the mouth of the chamber *i* between the two.

In the base D are three openings, *u*, *v*, and *w*, the first being in line with the mouth of the chamber *i*, the second forming a communication between the chamber *j* and a passage, P, beneath the base D, and the third forming a communication between said passage P and the fan-chamber J.

In the bottom of the casing which incloses the passage P, and in line with the opening *u* of the base D, is an opening communicating with a spout, R, which extends down into the eye of the stone.

The grain, as it descends from the hopper M, is distributed within the chamber *i* by means of a dished plate, S, secured to and revolving with the shaft G, the amount of grain delivered by the plate depending upon the vertical adjustment of a sleeve, T, which surrounds the lower portion or spout of the hopper, and is carried by the hinged lid *g*.

In the outlet-passage of the fan-chamber J is placed a valve, V, loosely pivoted at *x*, so that it will readily adjust itself to the blast of air from the fan I, assuming the position shown in full lines when the fan is revolving in the direction of the arrow, and the position shown in dotted lines when the fan revolves in the opposite direction. By this means the device can be applied to millstones revolving in either direction without any change in the working parts.

It will be observed that the stream of grain as it passes from the chamber *i* to the stone is twice subjected to the action of a moving column of air; first, when it passes between the mouths of the chamber *j* and passage *m;* and, second, when it crosses the chamber P, the removal of the garlic and other impurities which the smut-mill cannot or does not remove being thus insured.

I claim as my invention—

1. The combination of the grain-delivery chamber *i*, air-chamber *j*, fan I, and passages *m* and P, arranged substantially as described, so that the stream of grain in its passage from the chamber *h* to the stones is subjected to the action of two moving columns of air, as set forth.

2. The combination of the discharge-passage of the fan with the loosely-hinged valve V, as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JUSTUS JAMES HENDRICKSON.

Witnesses:

CHAS. S. THOMAS,

ELI G. MCCARTER.