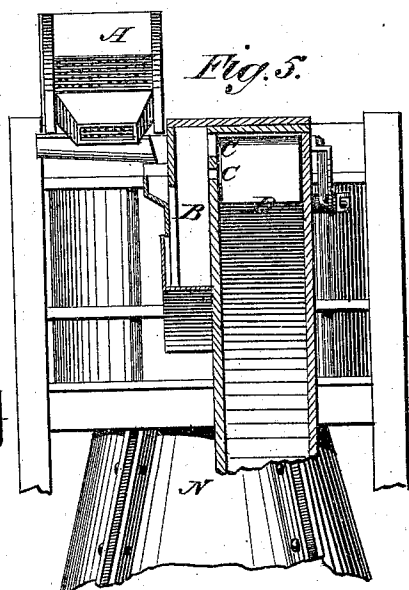
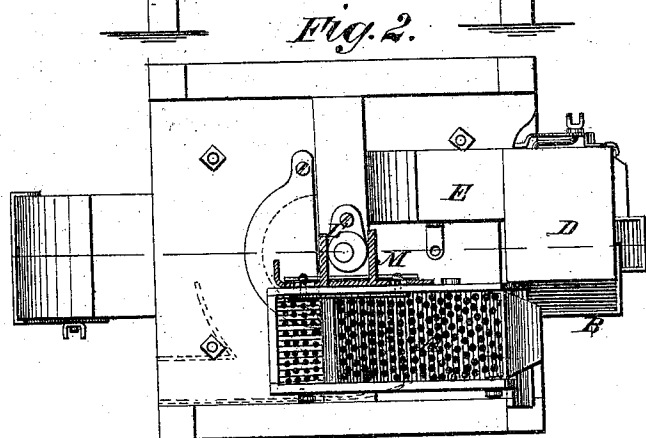
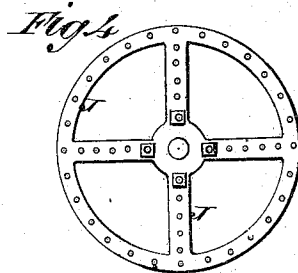
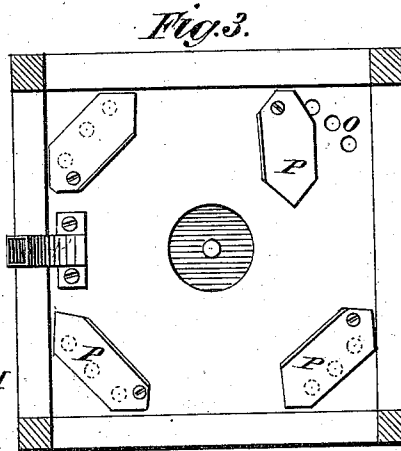
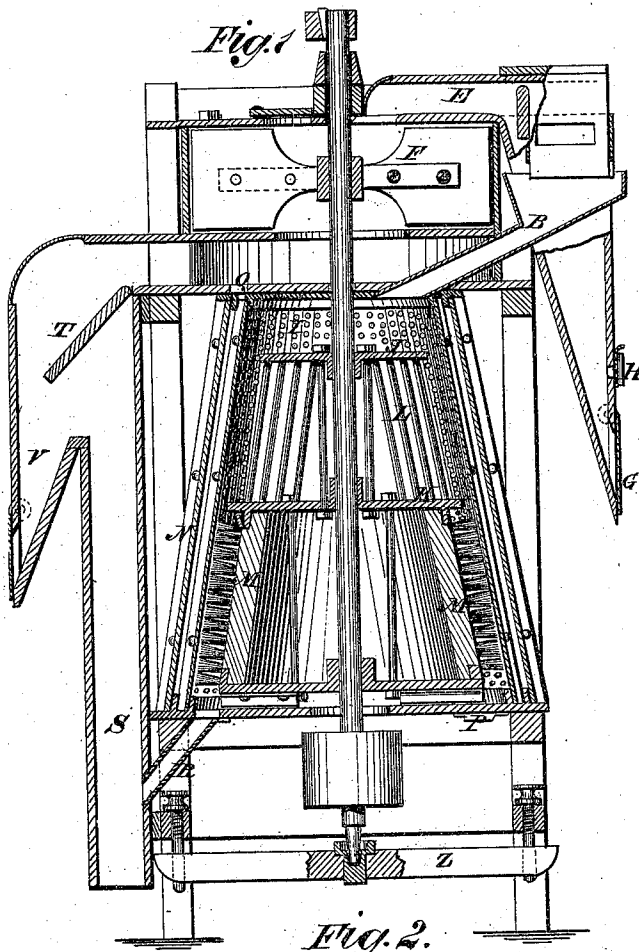


E. W. JOHNSON.
GRAIN-CLEANER.

No. 174,253.

Patented Feb. 29, 1876.



WITNESSES:

Francis McWhale
Alex F. Roberts

INVENTOR:

E. W. Johnson
BY *[Signature]*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

EDWIN W. JOHNSON, OF FORESTON, ILLINOIS.

IMPROVEMENT IN GRAIN-CLEANERS.

Specification forming part of Letters Patent No. **174,253**, dated February 29, 1876; application filed October 23, 1875.

To all whom it may concern:

Be it known that I, EDWIN W. JOHNSON, of Foreston, in the county of Ogle and State of Illinois, have invented a new and Improved Grain-Cleaner, of which the following is a specification:

The invention comprises a screen, scourer, and brusher, combined in one machine, and having a fan-blower so contrived that each different part is subject to air-currents for taking off the light impurities freed from the grain or exposed to the air in it.

Figure 1 is a sectional elevation of my improved grain-cleaner. Fig. 2 is a top view. Fig. 3 is a plan of the bottom. Fig. 4 is a plan of the upper head of the scouring-drum, and Fig. 5 is partly a side elevation and partly a section.

Similar letters of reference indicate corresponding parts.

A represents a screen on the top of the machine into which the grain is first delivered, and from which it passes into the spout B for conducting it into the scourer. In the upper portion of spout B the grain is subjected to an upward draft of air, which passes through openings C into vacuum-chamber D, and thence through passage E to fan F, and takes off the light matters exposed to it in the spout B. The grain passing over into the vacuum-chamber D falls therein, and passes out through the valve G. H is a valve to regulate the admission of air to the vacuum-chamber, and thus determine the strength of the blast. I is the perforated stationary case of the scourer; J, upper head; K, lower head, and L rods, altogether forming the drum of the scourer, below which is a brushing contrivance, consisting of an extension of the perforated case I and the revolving brushes M.

Both the scourer and the brush are tapered, as shown, so that the descent of the grain will be obstructed more than it would if by reason of a true cylindrical form its passage was vertical.

Outside of the perforated case I, and at suitable distance from it for a dust-space, is

another unperforated case, N, in which space air-currents are established by the fan F for carrying off the dust and other light matters set free by the scourer and brush, the air being admitted through passages O at the bottom with regulators P, and passing up through openings Q. The grain passes off through spout R into suction-spout S, where it is again subjected to a strong air-current to take out the heavier impurities. A valve, T, in this spout, regulates the action of the draft, and a vacuum-chamber, V, receives the grain carried up in the spout.

The screen A is operated by an eccentric, L', on the shaft, with which there is an adjustable yoke, m, to regulate the action, and in practice the eccentric will be made adjustable, to let it down on the shaft from time to time as the latter is raised by the adjustable step-bearer Z for adjusting the brush as it wears away.

The upper head to the scourer is made open, to let grain fall into the drum to be thrown out against and between the rods, but the lower head is close, to exclude the grain from the interior of the brush.

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

1. The combination, with scourer A, spout B, fan F, and passage E, of chamber D, intermediate between the spout and passage, and provided with openings C, as and for the purpose described.

2. The combination, with fan F, of perforated case I, imperforate case N, open upper head J, closed lower head K, and rods L, all arranged as and for the purpose set forth.

3. The combination of a regulating-valve, T, with spout S, provided with settling-chamber V and fan F, as and for the purpose specified.

EDWIN WHEELER JOHNSON.

Witnesses:

JOHN D. COVELL,
NATHAN D. EAKLE.