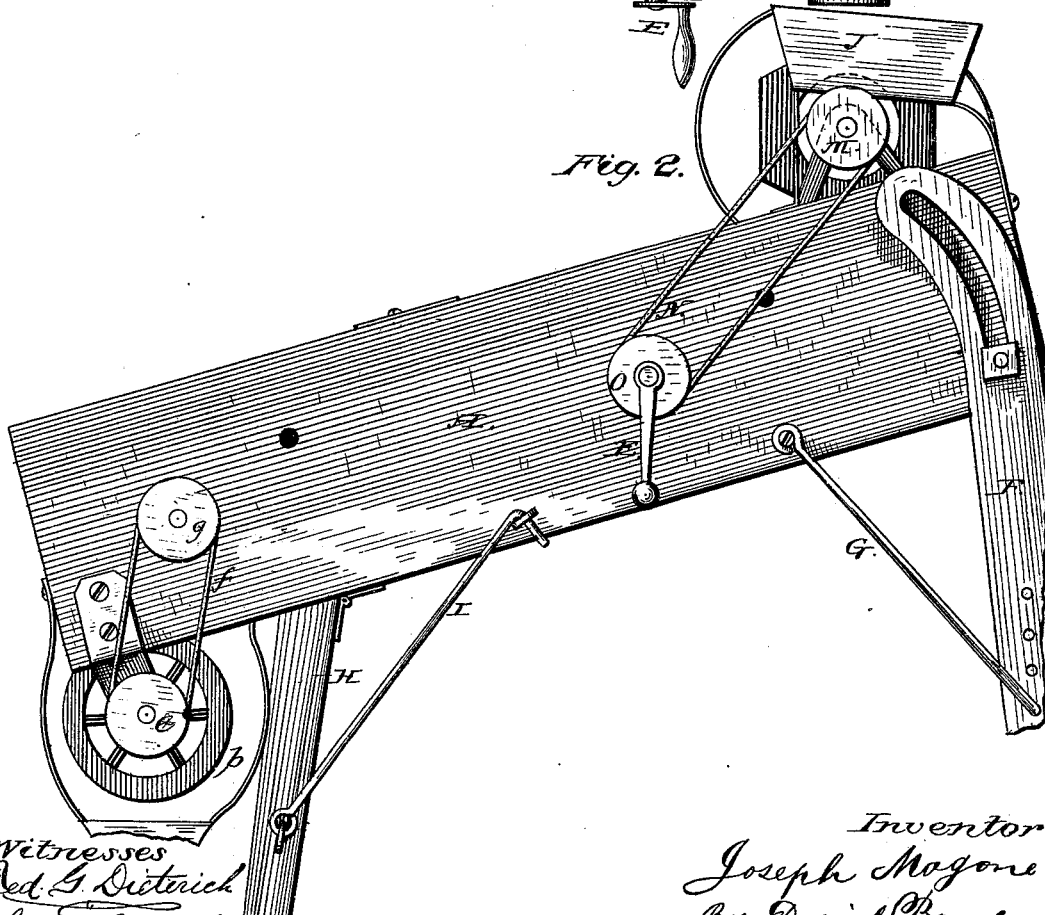
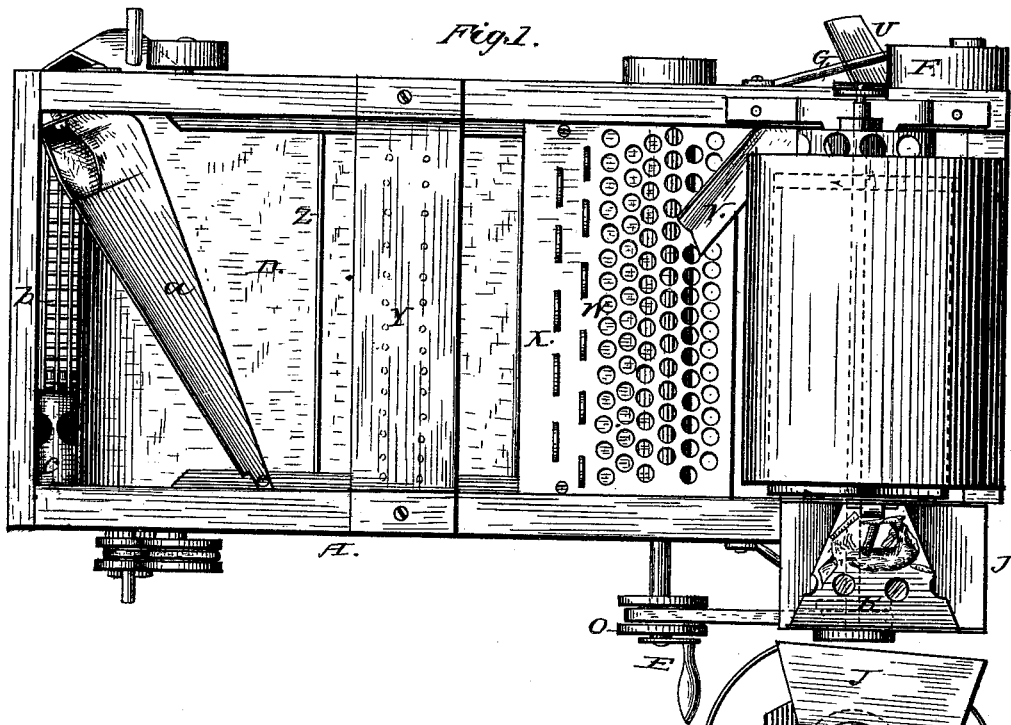


J. MAGONE.
Oat-Separator.

No. 214,415.

Patented April 15, 1879.



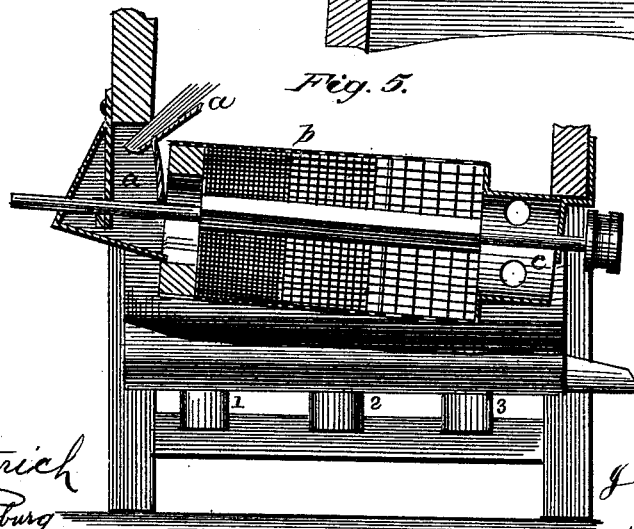
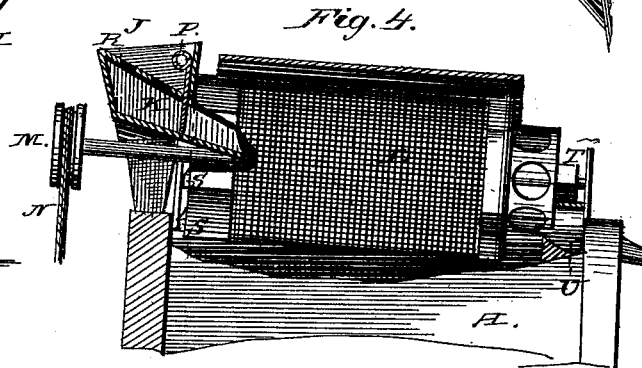
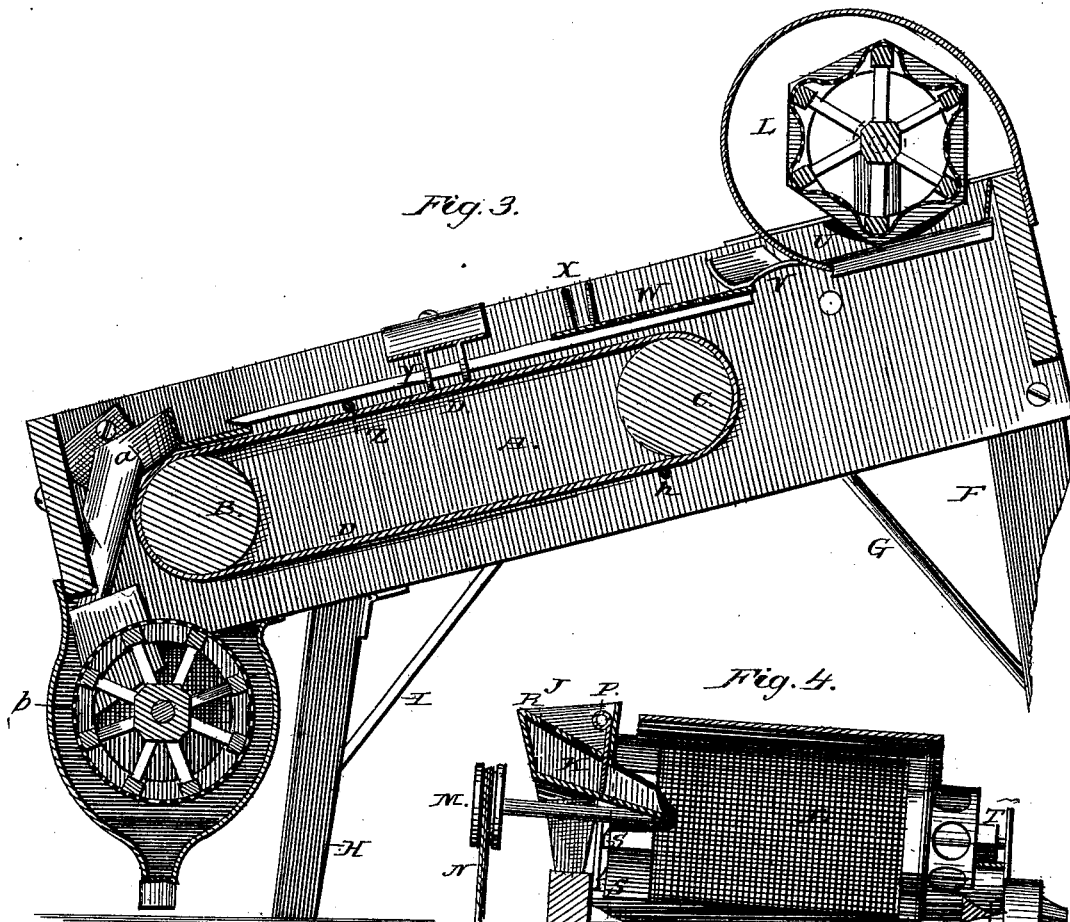
Witnesses
Red. G. Dietrich
George Pinkenburg

Inventor
Joseph Magone
 By *Daniel Breed*
Atty

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Witnesses
 Ad. G. Dieterich
 George Finkenburgh

Inventor
Joseph Magone
By
Daniel Breed
Atty

UNITED STATES PATENT OFFICE.

JOSEPH MAGONE, OF CANYON CITY, OREGON.

IMPROVEMENT IN OAT-SEPARATORS.

Specification forming part of Letters Patent No. **214,415**, dated April 15, 1879; application filed February 28, 1879.

To all whom it may concern:

Be it known that I, JOSEPH MAGONE, of Canyon City, Grant county, in the State of Oregon, have invented a new and useful Improvement in Oat Extractors or Separators; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a top view of my improved machine. Fig. 2 is a side view of the same. Fig. 3 is a longitudinal section of the machine. Figs. 4 and 5 are detached views.

Upon any suitable frame, A, are mounted two rollers, B C, for driving an inclined endless apron, D, made of any suitable material. These rollers and apron may be operated by means of a crank, E, or by any other power. The frame is provided with adjustable legs F, having braces G, so as to raise or lower the upper end of the frame, and thus set the apron at any inclination desired. The short legs H are hinged to the side pieces, A, and provided with hook-braces I, so that these legs may be folded to the frame for convenience in moving the machine.

On the upper part of the frame is a hopper, J, into which the wheat is fed to pass by spout K into the revolving screen L, which is set in motion by pulley M, band N, and pulley O on the shaft of roller C. The hopper has a cut-off slide, P, and a perforated plate, R, for allowing the wheat to pass, and for stopping large articles, such as dead mice and other coarse trash.

The screen L is inclined downward from the hopper J, as seen in Fig. 4, and the woven wire is so bent as to form a fluted hexagonal screen, as seen in section in Fig. 3. This revolving screen has also a series of cams, S, which shake the hopper, and a second series of cams, T, on the shaft of the screen, for the purpose of shaking the screen itself. This thorough shaking of the screen separates all dust, small seeds, and other small stuff not so large as kernels of wheat. The tail of the screen has a perforated rim, d, which allows the kernels of wheat to fall through, while the coarser stuff, as straws, &c., will pass on endwise and be discharged by the spout U, while the wheat passes through the spout V to the

incline W, the openings in which will separate cockle and all seeds of the same size, while the wheat rolls down the smooth incline with accelerated velocity. This motion of the kernels of wheat insures their free passage down the incline of the apron, which has a motion in the opposite direction, and must be moved with sufficient speed to carry oats upward in the opposite direction to be discharged over the top of the apron.

The incline W is provided with staples X, which will prevent oats, straws, small nails, or other long articles from rolling down the smooth incline with the wheat. By means of these staples the oats are turned so as to slide endwise upon the apron, and thus easily ride upward with the motion of the apron. A second series of staples, Y, Fig. 3, are inverted and so placed as to sweep the whole width of the apron a second time, so as to check the motion of an oat in case one happens to be knocked forward or carried past the first series of staples. By all of these means my machine will prove itself a perfect oat-extractor. I employ, however, yet a third check or obstruction, to prevent any long piece of trash from passing down the apron. A small wire or cord, Z, is stretched across the apron to check the downward motion of oats or other long rolling substance, while wheat or other similar substances all easily jump the wire and roll upon the slanting spout a, placed close to the upper surface of the apron.

On leaving the apron the wheat passes by the oblique spout a to the head of the revolving screen b, which is inclined in the opposite direction. This screen is made of woven wire, having different-sized meshes or openings, the first being of proper size to allow the smallest kernels of wheat to pass, the second allowing a second grade or size of kernels to pass, while the third discharges the largest plump kernels.

Thus the wheat is separated into three grades or qualities. The tail of this last screen has a broad rim, c, with perforations to allow beans or any similar article to pass, and if any coarser article yet remains it will be discharged from the tail of the screen. This second screen is moved by means of a pulley, e, band f, and pulley g. (Shown in Fig. 2.)

The most important feature in the above-described machine is the operation of the tin, zinc, or other smooth incline W, whereby the cockle, wild pease, or other foreign matters that may have escaped the first screen are subjected to the second ordeal, while the wheat rolls freely on, carrying with it perhaps some of these tenacious associates. Before reaching the draper or apron D it passes over the smooth part of the incline W, upon which a series of staples, H, are placed at such distance apart as will allow all classes or sizes of wheat to pass freely, and also cockle and other kindred stuff, should it remain in company with the wheat, while foreign substances of different sizes, shapes, and weight, such as round or cylindrical iron, perfectly smooth and true and ten times the weight of the wheat, or much lighter than wheat, as round or rolling straws, or oats, or anything else of too great length to roll through the staples, must reach the apron by sliding endwise, and thus be caught by the apron, and then carried up and thrown off. But the kernels of wheat, without reference to their size, and whether blighted or plump, with any remaining cockle or pease, &c., in their flight downward meet the second set of staples, Y, which are turned upside down, and come so near the moving apron that the wheat, cockle, and pease pass freely over or through the staples, which present an effectual barrier to the passage of larger or longer substances.

Below the upper roller, C, is a small wire or cord, h, bearing close against the under side of the apron, for the purpose of removing from the apron any tacks, nails, or other sharp, rough, adhering substances, which might otherwise be carried along and seriously interfere with the spouts or staples placed above the apron.

In addition to being a perfect oat-extractor and wheat-cleaner, my machine separates the

wheat itself into three grades, and therefore it enables the farmer to sow or send to mill and to market clean and selected wheat, while he retains at home the wheat of inferior quality.

My machine may be equally serviceable for cleaning rye and other similar grain.

It should be observed that the edges of the apron run in grooves or under strips i, which prevent the grain from rolling off over the edges of the apron.

Having described my invention, what I claim is—

1. In a wheat or grain cleaning machine having an inclined endless apron for extracting or separating oats, the inclined plate W, having a smooth extent of surface for permitting the wheat to acquire velocity to roll along the top of the revolving apron, while the oats are caught and carried in the opposite direction, substantially as set forth.

2. The plate W, provided with staples X, for arresting oats and other long rolling substances, and thus turning them endwise to slide down upon the apron, that they may thus be caught and carried upward, as set forth.

3. The inverted staples Y, in combination with the revolving endless apron, substantially as and for the purposes set forth.

4. The wire or cord Z, above the endless apron, adapted to arrest oats or other long and rolling substances, and permit the wheat to jump the wire and roll down the apron, as set forth.

The above specification of my said invention signed and witnessed at Washington this 28th day of February, A. D. 1879.

JOSEPH MAGONE.

Witnesses:

DANIEL BREED,
GEO. F. GRAHAM.