

No. 81,567

PATENTED AUG. 25, 1868

J. H. H. WISEHEART.
GRAIN SCREEN.

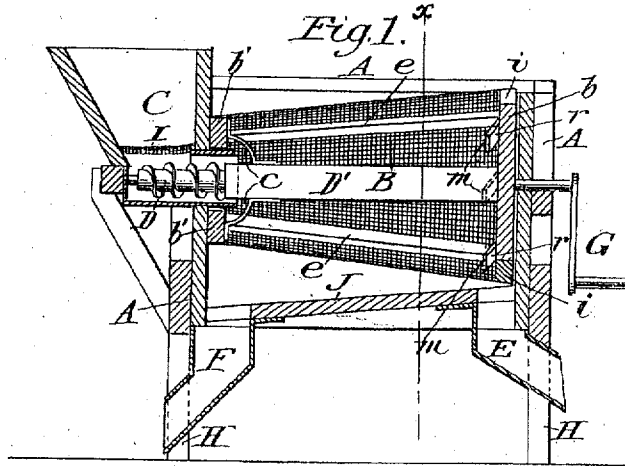


Fig. 2.

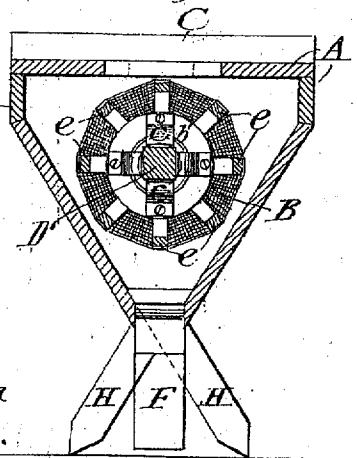


Fig. 3.

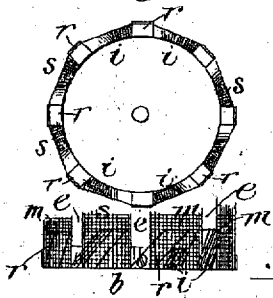


Fig. 4.

Witnesses:

J. H. H. Wiseheart
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Inventor

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J. H. H. WISEHEART, OF SHAWNEETOWN, ILLINOIS.

Letters Patent No. 81,567, dated August 25, 1868.

IMPROVEMENT IN GRAIN-SCREEN.

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, J. H. H. WISEHEART, of Shawneetown, in the county of Gallatin, and State of Illinois, have invented a new and improved Grain-Screen; 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 drawings, forming a part of this specification, and in which—

Figure 1 is a longitudinal vertical section.

Figure 2 is a cross-section through the line *x x*, fig. 1.

Figure 3 is a cross-section of the screen.

Figure 4 is a detached top view of the end, *b*, of the screen.

The object of this invention is to furnish a cheap and simple apparatus, whereby grain may be thoroughly cleaned and separated from dirt, sticks, chaff, dwarfed kernels, &c., in an expeditious and convenient manner.

In the drawing, A represents the frame of the machine; B is the rotary screen; C is a hopper from which the frame is fed; D is a screw-conveyer, by which the grain is carried from the hopper to the screen; E is the grain-discharge spout, and F is the discharge-spout for the chaff, dirt, &c., the whole instrument being supported on crossed legs H H, and operated by a crank, G, attached to the end of the shaft D' of the conveyer D.

A coarse wire sieve, I, is placed across the lower end of the hopper; for the purpose of separating the larger impurities, sticks, &c., from the grain before it is fed to the screen, and also of regulating the feed of the grain to the screen.

An inclined table, J, which may be formed of the bottom of the machine, is arranged under the screen, to receive and conduct to the spout F the impurities that may fall from the screen as the grain is passing through it.

The screen itself is made in the form of a frustum of a cone or tapering polyhedron, the large end, *b*, being attached to and supported by the shaft D'. The small end, *b'*, revolves around the end of the conveyer-box, and is secured to the shaft D' by means of braces *c*, said shaft having its bearing in the farther end of the conveyer-box, as shown clearly in fig. 1.

Slats *e e e* connect the ends *b b'*, and over them a wire sieve, *s*, is fastened. The shaft D is arranged in a horizontal position; and as it revolves, the grain, fed into the screen through the projecting conveyer-box, works gradually downward towards the large end of the screen, spreading out over the expanded surface, as it moves, in such a manner as to bring the whole mass of the grain thoroughly in contact with the surface of the sieve, and enable all the foreign substances to escape.

The grain arriving at the wooden plate or disk *b*, passes through openings *i i i*, around its perimeter under the wire gauze. These openings are arranged obliquely across the edge of the disk, so that they exert a positive force, as the shaft revolves, to throw the grain forward out of the screen.

The blocks *r r*, that separate the openings, project from the disk into the body of the chamber within the screen, as seen at *m m m*, in such a manner that when the screen is in motion, and the grain is working along towards the end, *b*, they intercept the grain and force it through the openings. Falling from the openings, the grain escapes through the spout E.

The screw-conveyer D is simply an extension of the shaft D', working in the elongated box *n*, and provided with screw-threads, as seen in fig. 1.

The inclination of the screw-threads must be in the same direction as the inclination of the openings or passages *i i*, in order that when the crank G is turned in the proper direction, it may both feed the impure grain into the screen at the end, *b'*, and deliver the pure grain from the screen at the end, *b*.

The screen B works inside of the frame A, the latter being so covered as to conceal the body of the screen, except at an opening in the top of the machine, which is provided, in order that the operator may inspect its working.

It will be observed that the wooden slats *e e e* perform an important function in the purifying of the grain.

Extending the whole length of the screen, inside of its wire covering, they answer the purpose of beaters, the grain falling from one to the other of them, as the screen revolves, and the dirt, &c., being thus thoroughly separated from it.

They, also, spreading from each other, serve as conveyers to carry the grain along towards the large end of the screen.

The sieve *s'* may vary in fineness from one end to the other, if desired, so as to separate the different species of impurities at different points.

The machine has been very thoroughly tested, and found to work in every respect in the most satisfactory manner.

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

1. The arrangement of the sieve I, with the hopper C, conveyer D, and screen B, substantially as described.
2. The arrangement of the hopper C, sieve I, screw-conveyer D, screen B, incline J, and spouts E and F, substantially as described.

To the above specification of my improvement I have signed my hand, this 24th day of February, 1868.

J. H. H. WISEHEART.

Witnesses:

H. C. BARGER,

B. M. FLOYD.