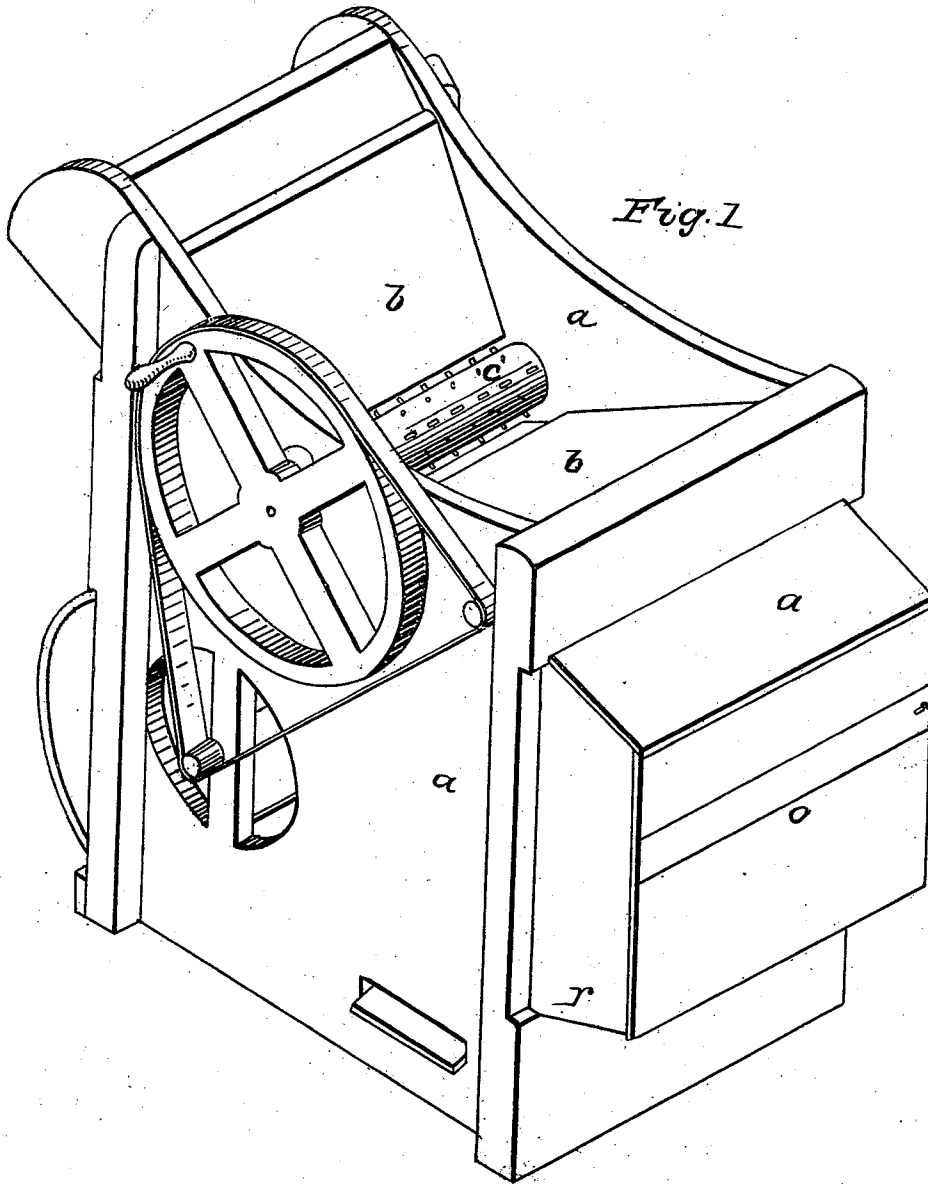


W. H. STEVENS.  
Grain Winnower.

No. 4,624.

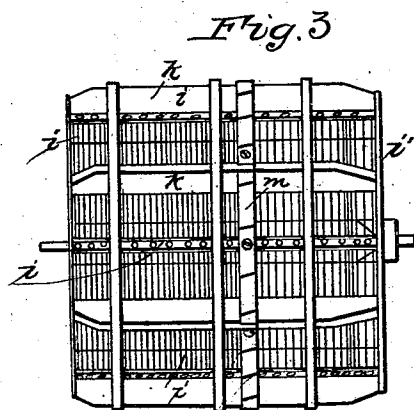
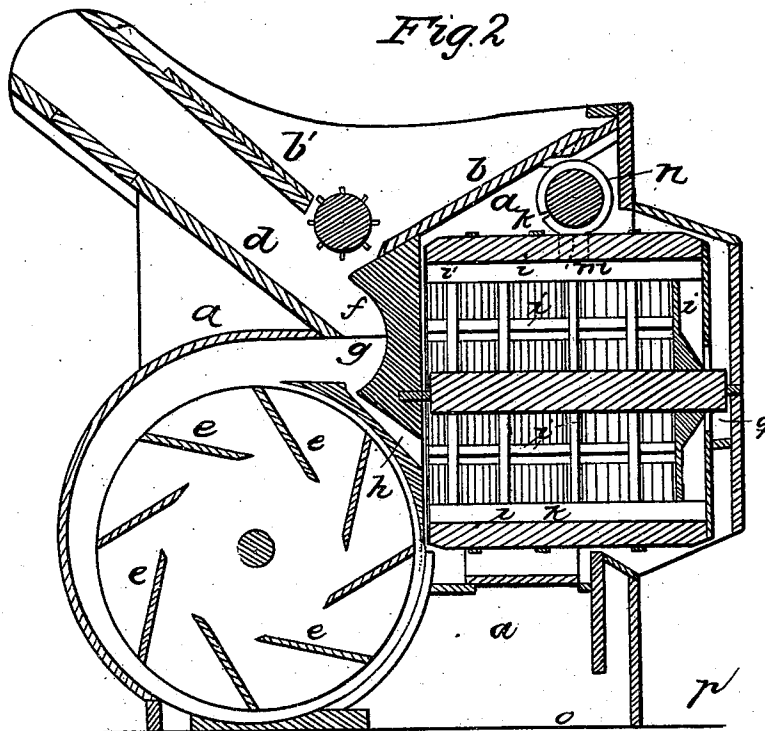
Patented July 7, 1846.



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# UNITED STATES PATENT OFFICE.

WILLIAM H. STEVENS, OF SALEM, ILLINOIS.

## GRAIN-CLEANER.

Specification of Letters Patent No. 4,624, dated July 7, 1846.

To all whom it may concern:

Be it known that I, WILLIAM H. STEVENS, of Salem, in the county of Marion and State of Illinois, have invented new and useful  
5 Improvements in Machines for Cleaning Grain, and that the following is a full, clear, and exact description of the principle or character which distinguishes my invention from all other things before known and of  
10 the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of the machine; Fig. 2, a longitudinal vertical section; and Fig. 3, a view of the cylinder detached.

The same letters indicate like parts in all the figures.

20 The nature of my improvements consist in the construction of the cylinder screen, in the regulation and direction of the blast and in the feeding apparatus.

The construction is as follows: In a suitable case (*a*, *a*) formed of boards connected at the corners to four posts which incloses the machinery (*b*, *b'*) are two inclined boards that form the bottom of the hopper into which the grain to be cleaned is thrown; near the angle formed by these boards there is a roller (*c*, *c*) armed with pins which by its revolution causes the grain to descend down across a spout (*d*) through which the blast from the fan passes; the upper side of said spout is formed by the inclined back (*b'*) of the hopper and extends up to a proper distance for the purpose intended. Directly below the spout (*d*) the fan is situated in a case made at its periphery somewhat spiral; the fans (*e*) are placed on a tangent to a circle which intersects their inner edges, which I consider renders them more effective—the fan receives the air at the axis in the usual way, the blast is thrown  
45 off at the upper side of the fan, and is there made to turn so as to be carried into the spout (*d*) and leave the machine in an opposite direction from what it leaves the fan by means of the concave breast (*f*)—thus causing what I denominate a return blast. The grain as it descends from the hopper across the spout (*d*) in front of the breast passes a grating (*g*) on which any large piece of dirt or foreign matter descending  
55 from the hopper that are too heavy to be blown out are caught and from which they are from time to time removed through a

hole in the side of the case. The grain descends through the draft into a short spout (*h*) which conducts it into the revolving screen. This screen is composed of ribs (*i*) connected by two rings (*i'*) one at each end; around these ribs the wire is wound helically, with small spaces between from the end where the grain is received to the middle; 65 from thence to the other end the spaces are made larger (this is clearly shown in the drawing); in the intervals between the ribs (*i*) other ribs (*h*) are put on over the wires, these are beveled off at each end and iron  
70 hoops are driven and shrunk on to tighten the wires—this is necessary to keep the spaces between the wires equal. By this mode a cheaper and more perfect screen can be made than in any other way. The  
75 screen thus constructed has a rack (*m*) around its center into which a worm wheel (*n*) works that causes it to revolve and sift the fine chaff, dirt, &c., that has passed through the blast from the grain while pass-  
80 ing over the first half of the screen into the case below at (*o*); from the second half the grain falls to the ground at (*p*), and the larger pieces of dirt, stones, &c., are conveyed out at the end onto a board (*q*) and  
85 thence are thrown to one side through a spout formed at (*r*, Fig. 1), but not represented it being inside the case.

Having thus fully described my improved fan, what I claim therein as new and desire  
90 to secure by Letters Patent is—

1. The return blast or combination of the fan and spout by which the blast from the fan is made to sweep around a curve through the grain in passing to the screen, substantially  
95 in the manner and for the purpose set forth.

2. I claim the combination of the revolving screen with the fan in the manner described so that the grain shall pass to the  
100 screen after it has passed the blast from the fan, as described.

3. I claim in the construction of the screen made by winding on a continuous wire in parallel lines with spaces between, the method  
105 of tightening the same by means of the outside ribs and iron bands so as to preserve the proper distances between the wires as above made known.

WM. H. STEVENS.

Witnesses:

A. P. BROWNE,  
CHS. M. KELLER.