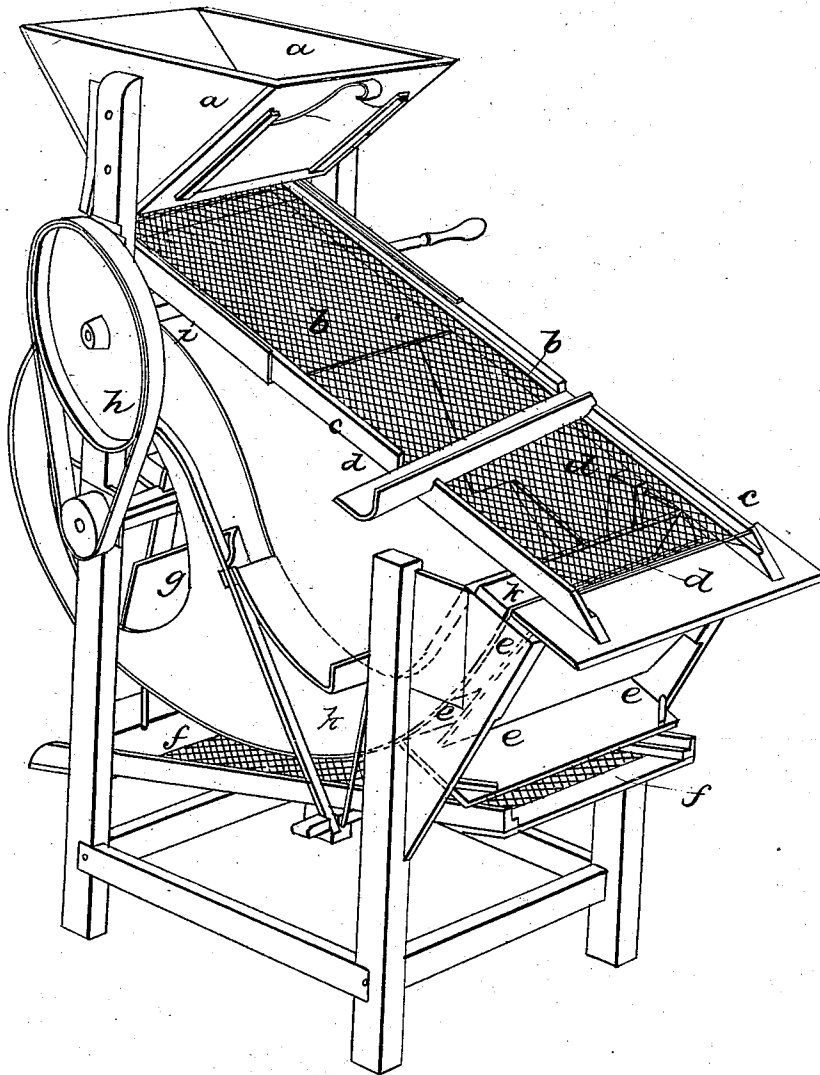


O. ETNIER.
Grain Fan.

No. 8,063.

Patented April 29, 1851.



UNITED STATES PATENT OFFICE.

OLIVER ETNIER, OF SHIRLEY, PENNSYLVANIA.

WINNOWING-MACHINE.

Specification of Letters Patent No. 8,063, dated April 29, 1851.

To all whom it may concern:

Be it known that I, OLIVER ETNIER, of Shirley township, in the county of Huntingdon and State of Pennsylvania, have invented certain Improvements in Wheat-Fans, and that the following is a full, clear, and exact description of the principle or character which distinguishes them from all other things before known and of the usual manner of making, modifying, and using the same, reference being had to the accompanying drawing, which is a perspective view.

The object of my improvement is to effect a more perfect separation of the wheat from the pieces of straw, chaff, cheat, small grains, dirt, &c., than can be performed by machines of the ordinary construction, unless the grain is run through them two or more times.

In my machine, the wheat is thrown into a hopper (*a*), from which it runs, through an aperture in the bottom, regulated by a slide, on to a coarse screen (*b*) which extends about half the length of the frame (*c*). At the foot of this screen (*b*) is an oblique gutter, which serves to carry off to one side the coarser particles of the straw, dirt &c., which is separated from the wheat by the screen. Under the screen (*b*) in the same frame, and extending its whole length is another screen (*d*); which is made fine, so that the small grains, cheat, and heavy particles of dirt only pass through, leaving the wheat which runs down the whole length of the screen (*d*) and falls into a passage at its end (*e*) which conducts it to the under screen (*f*). The revolving fan (*g*) is constructed in the ordinary manner, and is driven by a band passing over a pulley on its shaft, and a larger pulley (*h*) on the crank shaft (*i*). The blast from the fan is conducted through the passage (*k*) so as to act upward, through the screen (*d*) on the wheat, as the latter passes over the lower portion of the screen, immediately previous

to its falling into the passage (*e*); and thus raises the dust, chaff and other light substances from the wheat and throws them over the end of the machine.

The blast acting in a direction perpendicular to the screen, and through it, is found to possess great advantages over the common method of causing the draft to act horizontally on the grain in the act of falling from one screen to another; in which method if the blast is a little too strong, a part of the wheat which falls through near the outer extremity of the screen is liable to be blown away; or if the draft is weak much of the dust is carried down with the falling wheat. From the passage (*e*) the wheat falls on to another screen (*f*) which completes the separation, if any foreign matters should be left; but this screen might well be dispensed with altogether, as the previous operations produce a complete separation when working well. The screen frames are agitated by projections on the pulley (*h*), striking a projection on one corner of the frame (*c*), and the tail of a lever attached to the frame of the lower screen (*f*). By sifting out the heavy particles before fanning, by means of the long screen (*d*), the blast does not oppose the fall of the heavy particles as in the common fanning machines.

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

Placing the screen (*d*) in an inclined position above the fan, and extending the whole length of the machine, by which the wheat is thoroughly sifted before being acted on by the blast, in combination with the direction of the blast at right angles to the screen as above set forth.

OLIVER ETNIER.

Witnesses:

JOHN LUTZ,
ISAAC LUTZ.