KEECH & STILWELL.

Grain Winnower.

No. 11,069. Patented June 13, 1854.

FIG. 1.

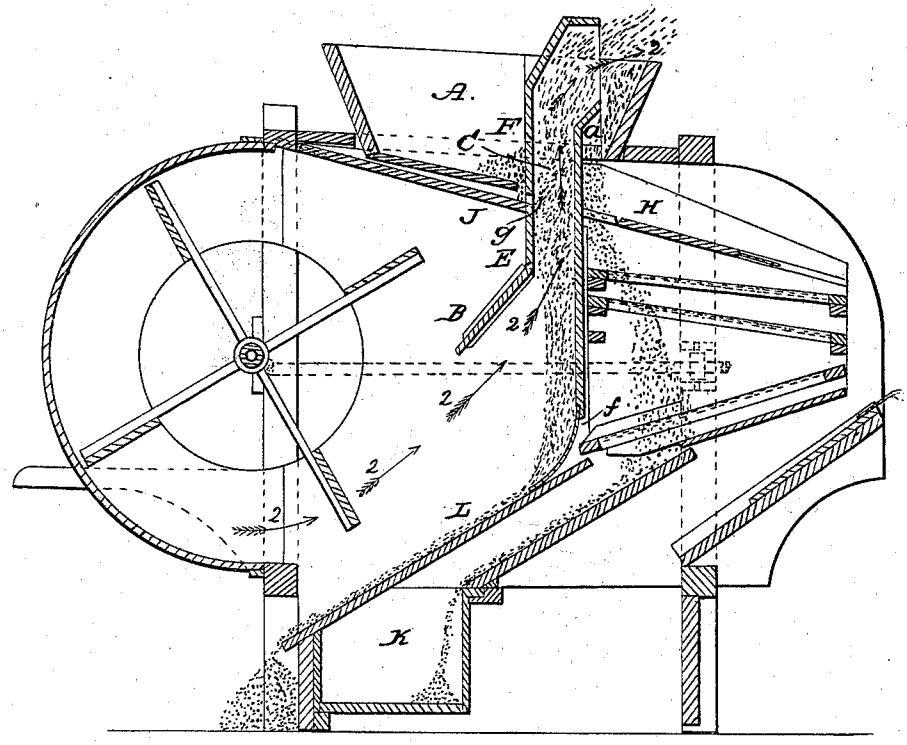


FIG. 2

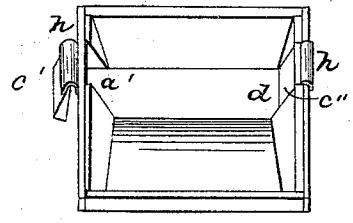
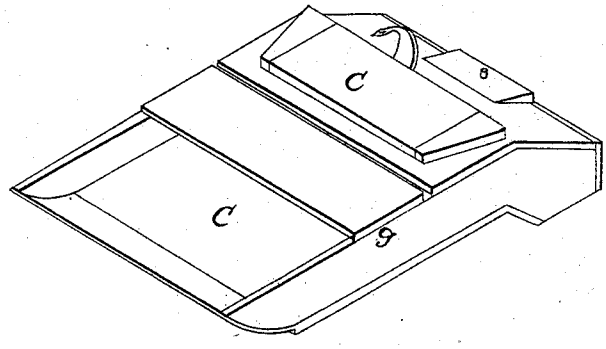


FIG. 3



N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

JOSEPH KEECH AND STEPHEN STILWELL, OF WATERLOO, NEW YORK.

WINNOWING-MACHINE.

Specification of Letters Patent No. 11,069, dated June 13, 1854.

To all whom it may concern:

Be it known that we, JOSEPH KEECH and STEPHEN STILWELL, of Waterloo, county of Seneca, and State of New York, have invented a new and useful Improvement in the Mode of Constructing Winnowing-Machines; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, in which—

Figure 1 is a vertical longitudinal section taken through the center of the machine. Fig. 2 is a perspective view of the hopper. Fig. 3 is a perspective view of the trunk.

The nature of our invention consists in an arrangement whereby the horizontal open blast winnowing machine may be converted into a vertical blast-separator, for the purpose of more effectually separating all foreign substances of less specific gravity, even those of the same size of the pure grain.

To enable others skilled in the art to make and use our invention we will proceed to describe its construction and operation.

We construct a trunk C in the form seen in the drawings, Figs. 1 and 3, and insert it in a common winnowing machine in a vertical position, so that it will intercept the horizontal blast and turn its course in a vertical direction, as seen in Fig. 1. We also form a plate B, which remains stationary in the machine and serves as a guide for directing the current of air into the trunk. Plate E joins onto the upper edge of plate B, but it is secured to trunk C, and forms a part of it. Between plate E and plate F there is an aperture *g*, which is designed for the purpose of allowing the grain to pass from the hopper A, into the trunk C. This aperture may be closed by means of a valve *c*. When necessary the lower end of trunk C, is curved, as seen at *f*, Fig. 1.

The hopper A, is provided with recesses *a*, *a'*, through which the trunk C, passes. But when the machine is to be used as an open blast or ordinary winnowing machine these recesses *a a'* may be closed by means of small pieces *e''* *e''*, which are fitted into said recesses and are secured to the hopper by means of straps *h*, *h*. See Fig. 2.

c'' represents the recesses closed up as it is to be used in case of the open blast or common winnowing machine. *c'* represents the grooves open and ready to admit the trunk C, for the purpose of changing or altering the course of the current of air.

The operation of our machine is as follows: When we wish to convert our machine from a common open horizontal blast to a vertical blast machine we slide plate H down to a position seen Fig. 1. Then we alter the position of the pieces *e e'* to the position *c*, Fig. 2. Then we slide the trunk C, down through the grooves *a a'* in the hopper until it reaches the upper surface of plate L. Then it will be perceived that the aperture *g* comes in range with the upper surface of plate J, so as to allow the grain to pass through said aperture into the trunk, where it is operated upon by the vertical blast or current of air, which goes in the direction of the arrows 2 2 and forces all substances which are of less specific gravity than the pure grain out in the same direction, although they may be of the same size as the grain. The light grain is also forced out at the top of the trunk and then falls directly into the hopper A, and passes down through the screen into box *k*, while the pure grain falls directly onto the upper surface of plate L, and is carried off, as seen in the drawings.

What we claim as our invention and desire to secure by Letters Patent is—

The movable trunk C, for the purpose of converting the open horizontal blast of the ordinary winnowing machine into a vertical blast separator.

JOSEPH KEECH. [L. S.]
STEPHEN STILWELL. [L. S.]

Witnesses:
IRA MILLS,
S. G. HADLEY.