

J. & J. MONTGOMERY.

Grain Winnower.

No. 10,324.

Patented Dec. 20, 1853.

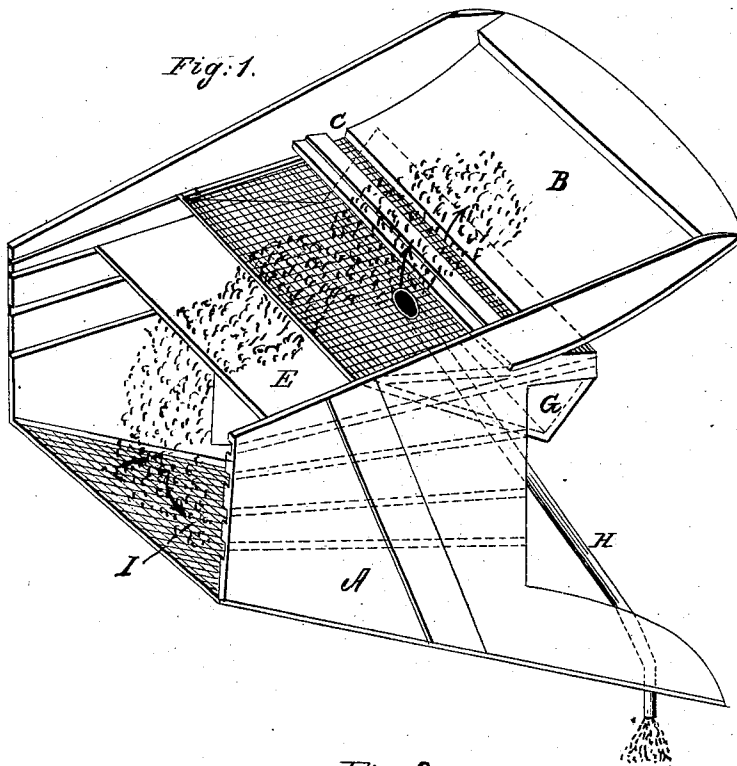
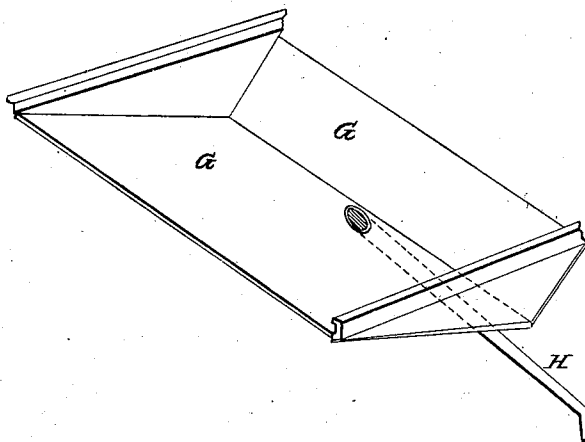


Fig. 2.



UNITED STATES PATENT OFFICE.

JOSEPH MONTGOMERY AND JAS. MONTGOMERY, OF LANCASTER, PENNSYLVANIA.

SHOE TO WINNOWER.

Specification of Letters Patent No. 10,324, dated December 20, 1853.

To all whom it may concern:

Be it known that we, JOSEPH MONTGOMERY and JAMES MONTGOMERY, of the city of Lancaster and State of Pennsylvania, have invented new and useful Improvements in Winnowing-Machines; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

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

The nature of our invention consists in the combination of an additional removable shoe and a closable door, or aperture, in the apron of a winnowing machine, with an ordinary winnowing machine; arranged and operating substantially as hereinafter described.

Figure 1 represents in perspective the shoes in combination, and Fig. 2, the improvement or smaller shoe.

A represents the larger shoe as commonly attached to winnowing machines, having grooves in the inner sides, into which the screens, sieves, or sieve boards are slid in and rest; B the curved apron upon which the grain falls after passing through a hopper above; C the door which is made to extend across the curved apron B and opening back on hinges, toward the front end of shoe A, rests flat upon the front part of the apron B. The grain passes along the curved apron B, and through the aperture of the door C and falls upon the screen D underneath. The grain is carried over the screen D on to the board E in front, while the screenings pass through the screen D into the shoe G underneath, and are carried along the bottom of the shoe G to the center, where a spout H receives the screenings and carry them down behind into a box below the bottom of the shoe A. The grain also continuing to pass over the board E falls upon the screen I underneath, and is carried along back on to the grain board perfectly screened, while that portion of the screenings, which passed over the screen D above, and were carried over the board E on to the screen I pass through the screen I and are carried along the bottom of the larger

shoe A where they are finally thrown out through a bottom aperture into the same box, where the screenings were deposited by the pipe H. This shoe G is located immediately under the door C of the apron B and receives the screenings from the screen D above and passes them off through the pipe or tube H. The shoe G being thus constructed and closed up behind, is so located and arranged as to confine the air from the fan to the space between the board E and screen I underneath. The space thus diminished allows the air to drive off more effectually over the mouth of the larger shoe A all that dirt and screenings that would otherwise fall upon the lower screen I, and thus giving the machine a double advantage over the screenings.

By removing the screen D at any time, and sliding a finer screen over the top of shoe G the machine then screens clover and timothy seed, and the seed being confined in the shoe G is forced to pass through the spout H, and thus a great saving of the seed is insured which otherwise would be blown away by the fan; and whenever the operator desires to chaff the grain the shoe G is removed, and the ordinary sieves for chaffing are inserted in the grooves of the shoe A.

The advantages of our above described improvement in winnowing machines are, 1st, by closing the door C, and removing the additional removable shoe G, grain may be winnowed in the ordinary manner, without causing it to pass over an unnecessary surface of screen, which would retard the operation; 2nd, by inserting said shoe G and opening the door C, a considerably larger portion of screen is obtained for preparing grain for seeding, or for other purposes, when a high degree of purity is desired; 3rd, by employing said shoe G and thus excluding the blast from the grain in the first stage, the smallest and lightest screenings, (which may be of some value,) are preserved; and the grain then passing over other screens and before the blast, a superior quality of screenings, or rather a second quality of grain, is obtained and properly cleaned by the fan; 4th, by the use of said shoe, clover seed and other very small seeds, which need not the action of the blast, are speedily screened and entirely caught therein; 5th, by dispensing with the removable

5 screens and covering a considerable portion
of the remaining screen D, (by closing the
door, or aperture, C,) large kinds of grain,
such as beans and maize, which need little
10 or no screening, may be most expeditiously
cleaned by the fan; and finally, all these sev-
eral advantages are claimed to be attained,
in a cheaper and more compact manner than
heretofore, by employing the aforesaid de-
15 vice of the additional removable shoe G and
closable door, or aperture, C, in the apron.

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

The construction and arrangement of the
ordinary shoe A, so as to receive an extra 15
shoe G, and door C, substantially in the
manner and for the purpose herein set forth.

JOSEPH MONTGOMERY.

JAMES MONTGOMERY.

Witnesses:

H. M. MILLER,

J. FRANKLIN REIGART.