

T. BOLLES.
Reciprocating Winnowers.

No. 146,643.

Patented Jan. 20, 1874.

Fig. 1.

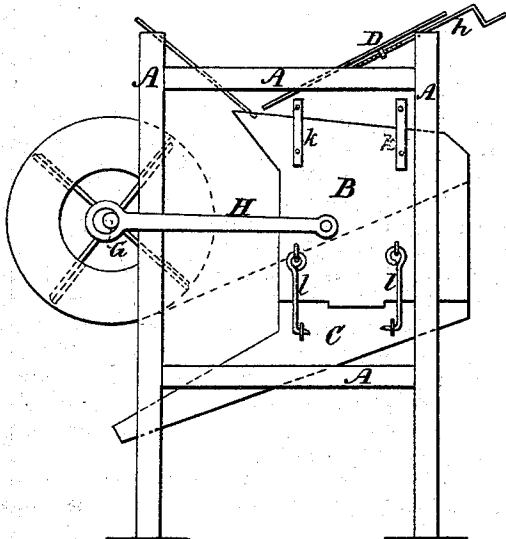


Fig. 2.

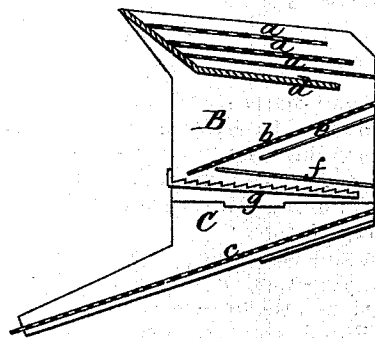


Fig. 3.

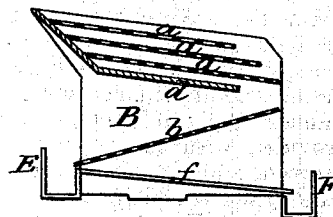
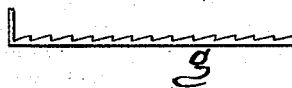


Fig. 4.



Witnesses.

Wm. G. Chaffee.

Edmund Masson

Inventor.

Thomas Bolles
by H. H. Doubleday
att'y

UNITED STATES PATENT OFFICE.

THOMAS BOLLES, OF SAUK CENTRE, MINNESOTA.

IMPROVEMENT IN RECIPROCATING WINNOWERS.

Specification forming part of Letters Patent No. 146,643, dated January 20, 1874; application filed April 10, 1873.

To all whom it may concern:

Be it known that I, THOMAS BOLLES, of Sauk Centre, in the county of Stearns and State of Minnesota, have invented certain Improvements in Fanning-Mills, of which the following is a specification:

Figure 1 is a side elevation. Fig. 2 is a longitudinal vertical section of the shoe with the spouts detached and the lower section in working position. Fig. 3 is a vertical section of the upper portion of the shoe with the spouts attached. Fig. 4 is a transverse section of a ribbed or corrugated board used for carrying the grain from the upper to the lower section of the shoe when the latter is used.

In the drawings, A represents the frame, which may be of any usual or approved construction, as may be the fan and the gearing for connecting and driving the same. B is the case or frame of the upper portion of the shoe, and is provided with the ordinary series of sieves or screens *a* and a chute-board, *d*, which receives the grain and delivers it to another screen, *b*, which, in Fig. 3, extends to and delivers the grain into a spout, E, arranged at the front end of the part B of the shoe. Such screenings as fall through screen *b* are collected by the chute-board *f*, or by two boards; *e* and *f*, and are delivered to a spout, F, when the mill is arranged as shown in Fig. 3, this being the arrangement of parts which I employ under ordinary circumstances.

When, however, in order to effect a more perfect separation, or from any other cause, I shall desire to use the lower part of the shoe, (represented by C *c*), I can remove the spouts E F, and, by means of the hooks *l*, attach the portion C to the portion B. I then withdraw the screen *b* until its lower edge is within the sides of the shoe, so that the grain will fall upon a corrugated board, *g*, which I insert to carry it (the grain) to the upper end of the

screen *c* in the lower part C. By this means the grain is subjected to a further separation, and any number of wire-cloth may be used which the condition of the work or the other circumstances may require.

This combined shoe may be advantageously employed in separating wheat for seed, or the screenings may be collected and carried off by chute-board *f* and spout F, (which in this case may be left on the shoe,) and then, by using a coarse cloth on screen *c*, only the larger and best kernels will pass over the end of this screen, while that which passes through will be in a good condition for market.

When preferred, the chute-board *f* may be dispensed with, when the combined shoe is used.

What I claim as new is—

1. In a fanning-mill, a shoe made in two sections, the upper portion being adapted to separate the grain from the refuse and to deliver the products in different places, in combination with a supplemental removable section, which may be attached to and carried by the upper part, for effecting a more thorough separation when required, substantially as set forth.

2. In combination with the removable part or section C, the corrugated board *g*, substantially as set forth.

3. In combination with the shoe, made in two sections, B C, the adjustable screen *b*, substantially as set forth.

4. In combination with the upper section B of the shoe, the removable section C and the removable spouts E F, substantially as set forth.

THOS. BOLLES.

Witnesses:

MATTHEW E. DIMON,
J. D. CAW.