J. & D. SCHILDHANER.

Grain Separator.

No. 38,844. Patented June 9, 1863.

Fig. 1,

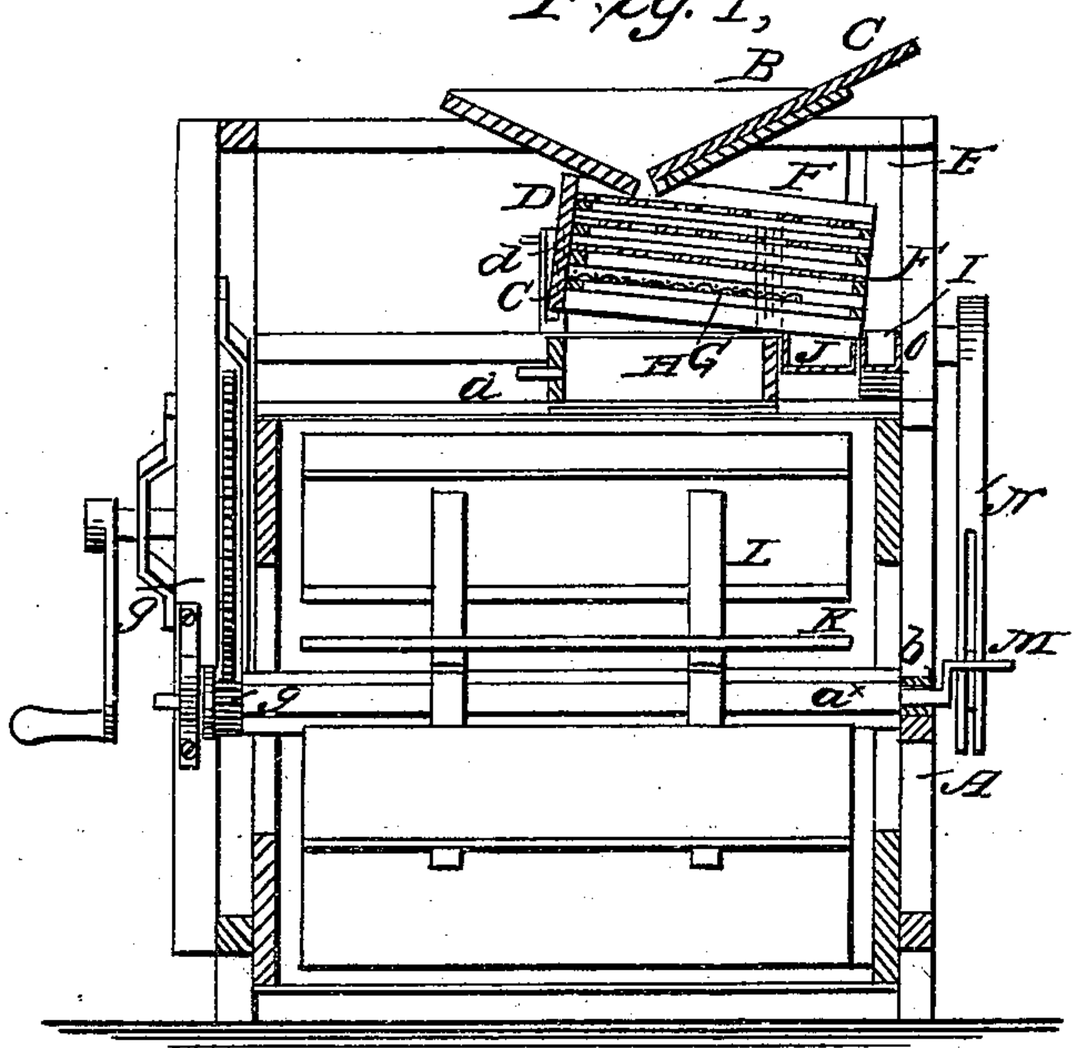


Fig. 2,

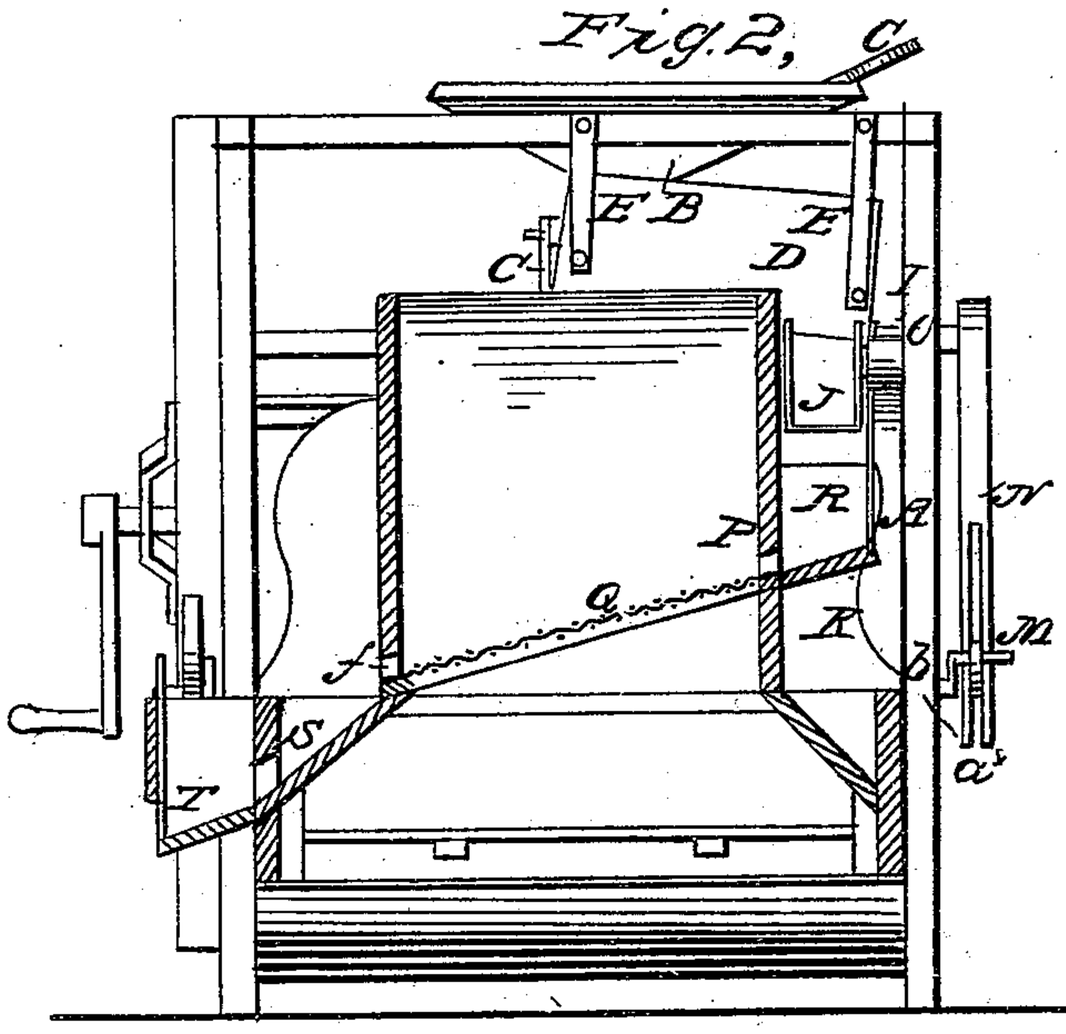
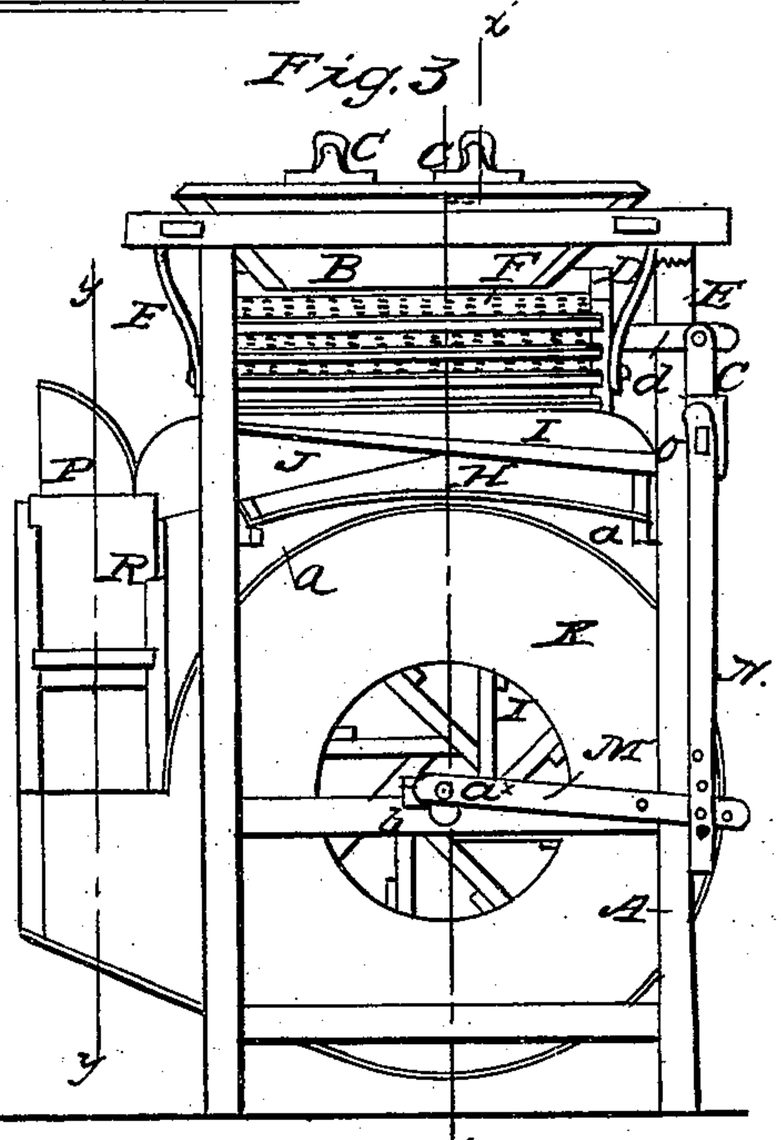


Fig. 3



Witnesses:
S. D. Coombs
G. W. Reed

Inventors:
Joachim Schildhaner
Dd. Schildhaner

UNITED STATES PATENT OFFICE.

JOACHIM SCHILDHAUER AND DETLEF SCHILDHAUER, OF NEW HOLSTEIN, WISCONSIN.

IMPROVEMENT IN GRAIN-SEPARATORS.

Specification forming part of Letters Patent No. 38,844, dated June 9, 1863.

To all whom it may concern:

Be it known that we, JOACHIM SCHILDHAUER and DETLEF SCHILDHAUER, of New Holstein, in the county of Calumet and State of Wisconsin, have invented a new and Improved Grain-Cleaning Machine; 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, making a part of this specification, in which—

Figure 1 is a vertical section of our invention, taken in the line *x x*, Fig. 3; Fig. 2, a vertical section of the same, taken in the line *y y*, Fig. 3; Fig. 3, a side view of the same.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to obtain a machine of simple construction which will effectually separate foreign substances from grain, and also separate one kind of grain from another, as, for instance, oats from wheat.

To enable those skilled in the art to fully understand and construct our invention, we will proceed to describe it.

A represents a framing, which may be of rectangular form and constructed in any proper way to support the working parts. On the upper part of this framing there is placed a hopper, B, which is provided with slide C, to regulate the discharge of grain.

Directly underneath the hopper B there is suspended a box, D, by means of straps E. This box has an inclined position, as shown in Figs. 1 and 2, and within it there are placed a series of screens, F, formed of sheet metal perforated with round holes. These screens are placed one over the other, as shown in Figs. 1 and 3. Within the box D, in its lower part, there is placed a fine screen, G, underneath which there is a box, H, which is fitted on ways *a a*, so that it may be drawn out from underneath the screen-box D and shoved underneath it with facility. To the lower part of the depressed end of the box D there is attached an inclined spout, I, which is designed to catch and carry off oats and other substances which cannot pass through the screens F. There is also attached another spout, J, to the lower part of box D, just behind the spout I, but inclined in a reverse direction to it. (See Fig. 3.) The spout J is under the lower or depressed end of the fine screen G, as shown in Fig. 1.

K is a cylindrical fan-case, which is secured in the lower part of the framing A underneath the sliding box H. L is the fan, which is placed within the case K, and may be constructed in the usual or in any proper way. The fan-shaft $a^{\times}$ has a crank, *b*, at one end of it, to which a pitman, M, is attached, the outer end of the latter being connected to a pendent arm, N, at one end of a rock-shaft, O, the latter having its bearings attached to the framing A. This rock-shaft has two vertical posts, *c c*, attached to it, which are connected to the screen-box D by arms *d*. It will be seen that a shake-motion is given the screen-box D from the fan-shaft $a^{\times}$ by means of the parts just described.

P is a box which is at one side of the framing A, and communicates at its lower end with the fan-case K. This box P has a screen, Q, placed in it in an inclined position, as shown clearly in Fig. 2. At one end of this box P there is a vertical spout, R, which is underneath the discharge end of the spout J of the screen-box D. The lower end of the spout R communicates by means of an opening, *e*, with the box P just above the elevated end of the inclined screen Q. At the opposite end of the box P there is a receptacle, S, which communicates with the box P just above the depressed end of the screen Q by means of an opening, *f*. (See Fig. 2.)

The operation is as follows: The grain to be cleansed is placed in a hopper, B, and is allowed to fall in greater or less quantities upon the upper screen, F, in the box D by adjusting the slides C. The grain, as wheat, for instance, passes through the screens F, but oats and large foreign substances cannot pass through said screens, and are discharged from the lower or depressed ends of the latter into the spout I, which carries them off from the machine and discharges them on the ground. The wheat falls through the lower screen, F, upon the fine screen G, through which cockle and other fine seeds may pass, but not the wheat. The former drops into the box H, while the latter falls into the spout J and is conducted by said spout J into the spout R, and passes from thence upon the inclined screen Q, and is there subjected to a blast from

the fan L, and has all dust and light impurities expelled from it. The wheat in passing over the screen Q is spread out so as to be favorably acted upon by the blast. The wheat may be allowed to pass out from the receptacle S, into which it enters from the screen Q, by raising a slide, T.

The fan L may be driven by multiplying gear *g* from a driving-shaft, in order that the proper speed may be given the fan.

By this arrangement it will be seen that the wheat is separated from oats, cockle, and all large foreign substances in passing through the screens F of the box H, and hence the blast from the fan L can act in the most efficient manner upon the wheat, for a great portion of the foreign substances are abstracted from it before being acted upon by the blast, and the wheat is exposed a considerable length of time to the blast while passing in a thin sheet over the screen.

We do not claim, separately, the screens F, for they have been previously used; but

We do claim as new and desire to secure by Letters Patent—

The screens F and screen G, placed in the box D, and the sliding box H, arranged in relation with the screen-box D, substantially as shown, in combination with the inclined screen Q, placed in the box P, the latter communicating with the fan-case K, and all arranged for joint operation as and for the purpose herein specified.

JOACHIM SCHILDHAUER.
DETLEF SCHILDHAUER.

Witnesses:
CHARLES GRÜNING,
A. RÉE.