

Rowan & Gill

Sheet 2,
2 Sheets

Grain Separator

N^o 30,733

Patented Oct. 21, 1862

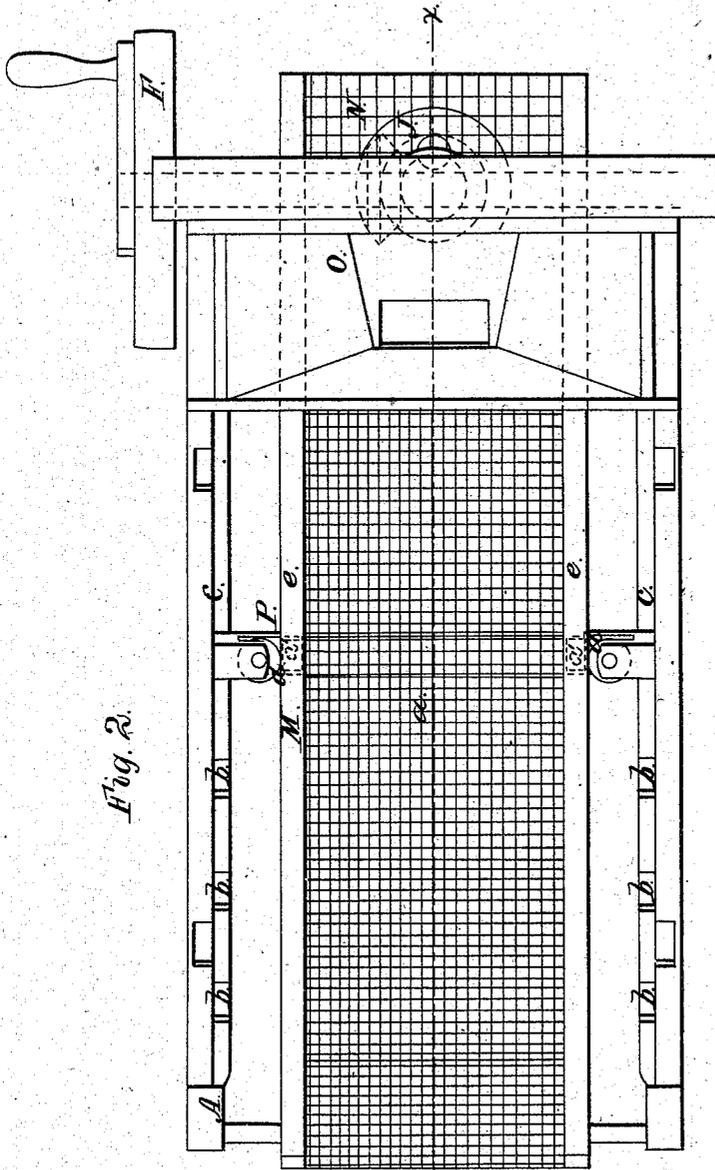


Fig. 2.

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UNITED STATES PATENT OFFICE.

WILLIAM ROWAN AND JAMES M. H. GILL, OF FREEPORT, PENNSYLVANIA.

IMPROVEMENT IN GRAIN-SCREENS.

Specification forming part of Letters Patent No. 36,732, dated October 21, 1862.

To all whom it may concern:

Be it known that we, WILLIAM ROWAN and JAMES M. H. GILL, of Freeport, in the county of Armstrong and State of Pennsylvania, have invented a new and Improved Grain-Screen for the Purpose of Separating Chaff, Cockle, and other Impurities from Grain; 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 side sectional view of our invention, taken in the line *xx*, Fig. 2; Fig. 2, a plan or top view of the same.

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

This invention consists in placing the screen on a fixed or adjustable bar between friction-rollers or other bearing-surfaces and operating the screen through the medium of a crank or crank-wheel, all arranged in such a manner that a combined longitudinal and lateral vibratory movement is given the screen, whereby the same is rendered much more efficient in its operation than those previously devised, and also admitting of the screen being readily detached from its framing when necessary for the purpose of cleansing, repairing, &c.

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 constructed in any proper manner, and having at one end of it a driving-shaft, B, which is placed transversely in the framing and provided at one end with a pulley, C.

D is a shaft, which is placed in the lower part of the framing A, parallel with shaft B, and having a pulley, E, on its outer end, around which and the pulley C a band or belt, F, passes. At the inner end of the shaft D there is a bevel-wheel, G, which gears into a corresponding wheel, H, at the lower part of a vertical shaft, I, said shaft having a wheel, J, on its upper end, which is provided with a vertical pin, K, near its periphery.

L is an inclined screen, which may be constructed in the ordinary way—to wit, a wire-

cloth, *a*, attached to a rectangular frame, M, a short and coarse-inclined screen, N, being placed over the feed end of screen L, directly underneath the hopper O, on the framing A. The screen N is inclined in a reverse direction to the screen L, as shown clearly in Fig. 1. The screen L extends the whole length of the framing A, and it rests on a bar, P, which is fitted in notches *b* in the side bars, *c c*, of the framing. On this bar P there are placed two friction-rollers, *d d*, one near each end. These rollers have a horizontal position on the bar P, and they bear against the sides *ee* of the frame M, while the frame M of the screen rests upon vertical friction-rollers *a'*, as shown in Fig. 1. The upper or higher end of the screen L rests on the pin K, the latter fitting in a hole in a cross-piece, *f*, at the bottom of said screen.

From the above description it will be seen that when the shaft I is rotated through the medium of the belt and gearing previously described, a combined longitudinal and lateral vibratory movement will be given the screen L, the rollers *d d* serving as bearings for the screen, so as to give it a lateral rocking movement, and this movement may be modified so as to be increased or diminished at the feed or discharge end of the screen L by shifting the position of the bar P, the latter being fitted in any of a series of notches, *b*, which are made in the bars *c c*. This combined longitudinal and lateral movement of the screen renders it very efficient in separating chaff, cockle, and other impurities from the grain. The screen is not liable to choke or fill up, nor is the grain allowed to pass through the screen with the cockle and chaff, but is made to pass freely along on the screen and be discharged at its lower or depressed end. This movement of the screen renders the use of all knocking devices unnecessary, as well as sudden jarrings, which have a tendency to fill up the meshes of the screen, and also cause a great deal of wear and tear, especially if the screen be rapidly driven. The framing is provided with a top or cover, Q, which may be readily removed, when necessary, as well as the screen, the latter being merely required to be lifted from the bar P.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The adjustable bar P, provided with the friction-rollers *d d*, or equivalent side bearing-surfaces for the screen L, in combination with a crank or crank-wheel, J, on which the up-

per or feed end of the screen rests, substantially as and for the purpose set forth

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Witnesses:

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