

R. T. MERRILL.  
Grain Cleaner.

No. 8,031.

Patented April 8, 1851.

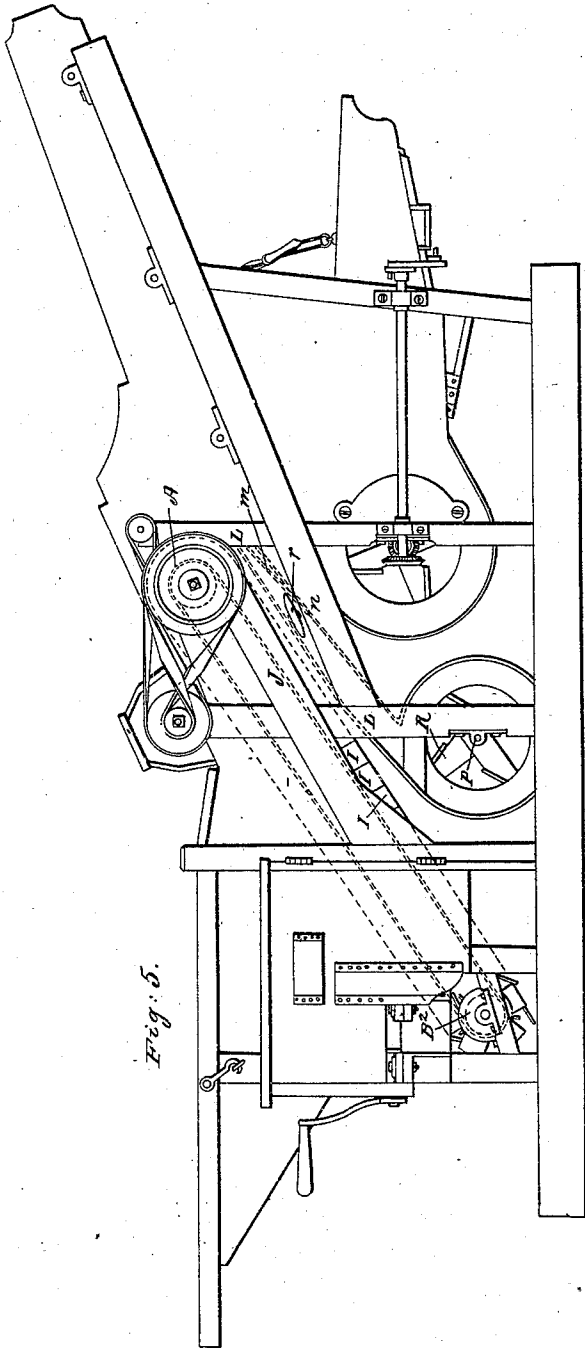


Fig. 5.

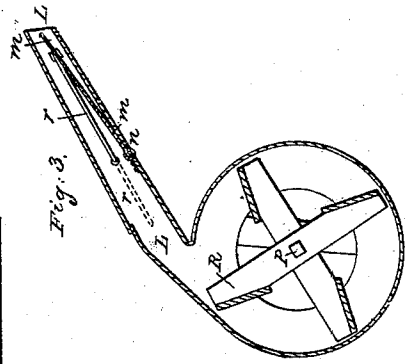


Fig. 3.

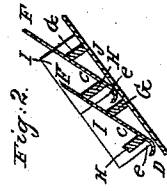


Fig. 2.

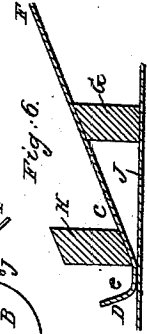


Fig. 6.

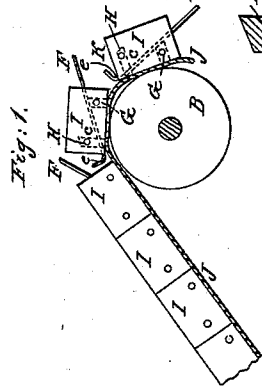


Fig. 1.

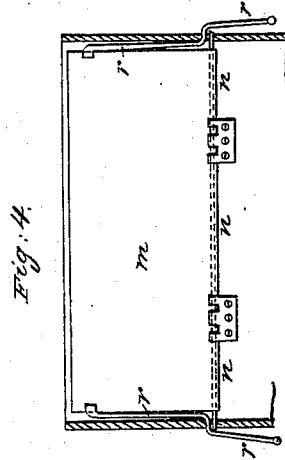


Fig. 4.

# UNITED STATES PATENT OFFICE.

R. T. MERRILL, OF BLOOMFIELD, MICHIGAN.

## GRAIN SEPARATOR AND FAN.

Specification of Letters Patent No. 8,031, dated April 8, 1851.

*To all whom it may concern:*

Be it known that I, ROSWELL T. MERRILL, of Bloomfield, in the county of Oakland and State of Michigan, have invented a new and useful Improvement in Machinery for Cleaning Grain; and I do hereby declare that the following is a full and exact description of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a side view of a section of the elevator; Fig. 2 is a transverse section of a double trough; Fig. 3 is a transverse section of the first fan-wheel and wind-channel with its plate-valve; Fig. 4 represents the bent lever by which the plate valve is governed, and Fig. 5 is a side elevation of an entire machine with my improvements.

The principal features of my invention consist in placing between the threshing cylinder, and the ordinary fanning and riddling machinery, an endless elevator of peculiar and improved construction, together with a preliminary fan-wheel, and wind-channel, which is furnished with a regulating valve; by means of which improvements the grain is not only more perfectly separated from the straw, but thoroughly cleansed from chaff and dust.

My improved elevator consists of a series of double troughs, the ends of which are attached to two endless straps or belts, which pass over two rollers (A, B, Figs. 1 and 5) for the purpose of elevating the grain from the thresher to a position to be acted upon by the blast, and is constructed as follows: To each side of a bent metallic plate (D F Fig. 2) three feet long and five inches wide, is attached longitudinally, a strip of wood G, H, of equal length with the plate; each strip being an inch wide and half an inch thick. One strip (G) is attached to one side of the plate about two inches from the forward edge thereof; and the other strip, H, is attached to the other and outward side of the plate, about three-fourths of an inch from the rearward edge thereof; which rearward edge of the plate is bent outward so as to form a trough *e*, between the edge of the plate and the strip H; each strip of wood being attached edgewise to the plate, and in an oblique position, as represented in the drawing; the cavities *c* and *e* constituting the two troughs, or cells, for carrying the grain. To each end of the

plate and strips of wood, is attached a square head-block, I, one edge of which is attached to an endless strap of leather, J, J. These head-blocks being each three inches long, and a series of them being attached to the belt-strap, in contact with each other, the forward edge of each plate is made to project over the rear strip of the preceding plate, as shown in Fig. 1; thus giving additional depth to the troughs *c*. And when by the motion of the belts, the plate is brought to the curve of the upper roller, and its position is thereby changed, as at K, and the first trough is about to discharge the grain therein contained, the second trough *e* is brought into a position to catch whatever grain may fall between the trough *c* and the succeeding plate, and which would otherwise fall upon the returning plates below.

My preliminary fan-wheel R, Fig. 3, is inclosed in a cylindrical casing, in connection with which is a wind-channel, L L, which is furnished with a plate-valve *m*, one edge of which is attached to an axle-rod *n*, while the other end is movable and adjustable to regulate the blast as circumstances may require. The position of the valve is governed by means of a bent lever *r* the central part of which passes through the side of the wind-channel, near, and parallel to the end of the axle rod, and through the casing of the machine; while one end thereof is connected to the valve-plate, and the outward end of the lever is bent to a position parallel to the side casing of the machine, as represented in Fig. 4; and its position is secured by pins or otherwise.

The main body and general features of the grain threshing and cleansing machine, to which my invention is an improvement, are common, and so well known as to require no special description; but an elevation drawing of the full machine is hereto annexed, (Fig. 5) for the purpose of showing the relative positions of the improved devices herein described; A and B<sup>2</sup> indicating the axles of the rollers over which the elevator passes, and P, that of the fan-wheel.

What I claim as my invention and desire to secure by Letters Patent, is—

1. Constructing the elevator with double troughs *c*, *e*, in the manner herein described, for the purpose of preventing the grain from falling through between the cells.

2. I moreover claim the combination of the herein described elevator J, wind-channel L and plate-valve *m* with a grain threshing and winnowing machine; the former  
5 being constructed and arranged as herein described.

In testimony whereof I have hereunto

signed my name before two subscribing witnesses.

ROSWELL T. MERRILL.

Witnesses:

WM. P. ELLIOT,  
RUFUS PORTER.