CHASE & TIFFANY.

Grain Separator.

No. 56,177. Patented July 10, 1866.

Fig. 1

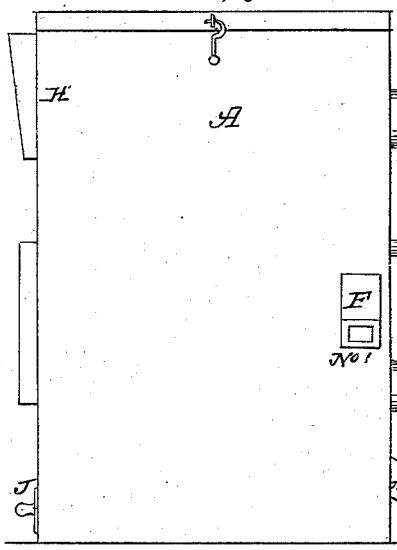


Fig. 2

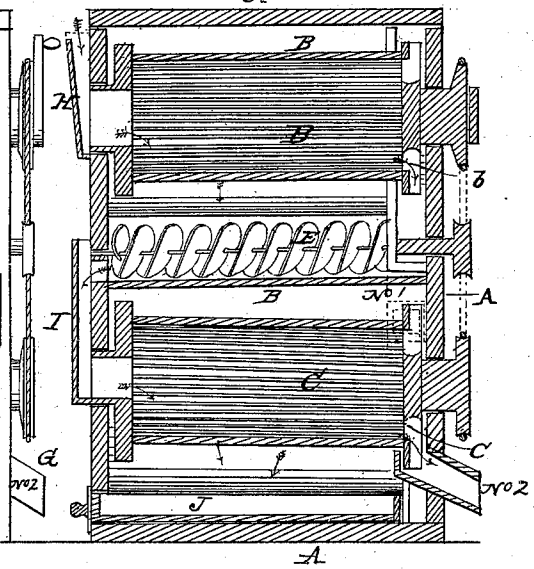
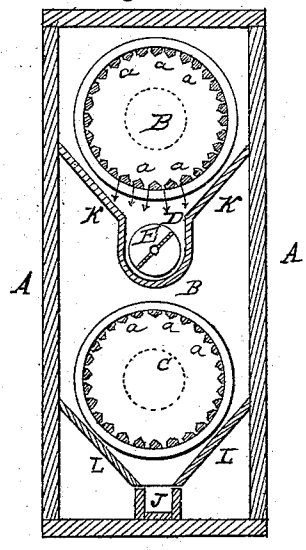
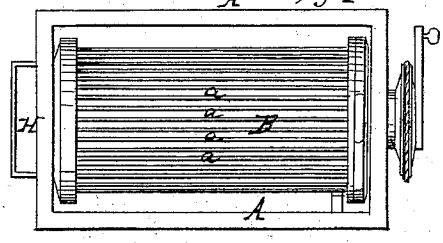


Fig. 3.



A Fig. 4



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UNITED STATES PATENT OFFICE.

JOHN H. CHASE AND J. M. TIFFANY, OF MONTGOMERY, ILLINOIS.

IMPROVEMENT IN GRAIN-SEPARATORS.

Specification forming part of Letters Patent No. **56,177**, dated July 10, 1866.

To all whom it may concern:

Be it known that we, JOHN H. CHASE and JOSEPH M. TIFFANY, of Montgomery, in the county of Kane and State of Illinois, have invented a new and useful Improvement in Machines for Separating and Grading Grain; and we do hereby declare and make known that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and the letters and figures marked thereon, which form part of this specification.

The nature of our said invention consists in a novel machine whereby all oats, rye, and other grains or seeds may be separated and removed from wheat, leaving the wheat free and unmixed, which at the same time sorts or grades the wheat itself into different grades or qualities, as desired.

The principle upon which our said invention operates consists in separating and sorting or grading the grain with reference to the transverse diameter of the kernel; and to enable those skilled in the art to understand how to construct and use our invention, we will proceed to describe its construction and operation with particularity, making reference in so doing to the aforesaid drawings, in which—

Figure 1 represents a side elevation of our invention; Fig. 2, a longitudinal vertical central section thereof; Fig. 3, a transverse section of the same; and Fig. 4 is a plan or top view, the cover being removed.

Similar letters of reference in the several figures denote the same parts of our invention.

A represents the case or inclosure in which the operating parts of our invention are placed, which may, however, be supported upon an open frame, if desired.

B and C represent two cylinders of similar construction, arranged in a position nearly horizontal, having a slight inclination, to facilitate the passage of the grain through the same, as hereinafter mentioned. These cylinders are constructed of narrow longitudinal slats or staves secured together by means of hoops, leaving narrow spaces between the said strips, extending from one end to the other. The diameter of the spaces between the said slats is intended to vary in the cylinders, the diameter of said slots in the upper cylinder being greater than in the lower cylinder, and so on through the entire series of cylinders, if more than two be used. The said cylinders are revolved by any suitable gearing or belting, as may be desired.

The grain to be subjected to this apparatus is introduced into one end of the upper cylinder through the hopper H, and the inclination of the cylinder causes the grain to pass along down to the opposite end, while the angles or longitudinal grooves directly over each of the slots in said cylinder keep the kernels of the grain arranged lengthwise in the cylinder and in the said grooves, so that all kernels whose diameter is less than the diameter of the spaces *a* in the cylinder will fall through into the conveyer D E, which carries them back and delivers them into the hopper I, whence they pass into the lower cylinder, as shown. In the meantime the plump full kernels, being unable to pass through the spaces aforesaid, go out at the end of the cylinder, at *b*, and are delivered through the spout F into any suitable receptacle. The grain which passed or dropped through the spaces in the cylinder B is directed into the conveyer by the side boards, K, as seen in Fig. 3, when it is carried back by the revolution of the screw E, and delivered into the second cylinder, C, whose spaces are made narrower, so that in passing through this cylinder the larger and fuller kernels remain and pass out at *c* into a spout, G, whence it is delivered into any suitable receiver, the smaller kernels, grains, and seeds falling through into a drawer or box, J.

If it is desired to continue the separation and grading of the grain still further another cylinder may be added.

The said cylinders may be so constructed that the slats of wood or metal forming their convex surface may be adjusted so as to lie nearer together or farther apart, thus rendering the narrow passages between them narrower or wider, and adapting a single cylinder to different grades of grain. This adjustment could be made by inserting an extra slat in one case and by removing one in the other.

The said slots or narrow openings through the convex surface of the cylinder may be ar-

ranged transversely or spirally, if desired, provided the corresponding V-shaped grooves upon the interior of the cylinder be arranged in like manner, so as to cause all the grain in the cylinder to lie lengthwise over and upon said passages.

Having described our invention, we will now specify what we claim and desire to secure by Letters Patent.

We claim—

In a grain-separating machine, one or more hollow cylinders having narrow openings or passages in their convex surface, with V-shaped grooves upon the interior, corresponding with the direction of said passages, so as to keep the kernels of grain in the cylinder lengthwise over the said passages, substantially as and for the purposes herein shown and described.

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