G. B. BAILEY.

Grain Separator.

No. 37,031. Patented Dec. 2, 1862.

Fig. 2.

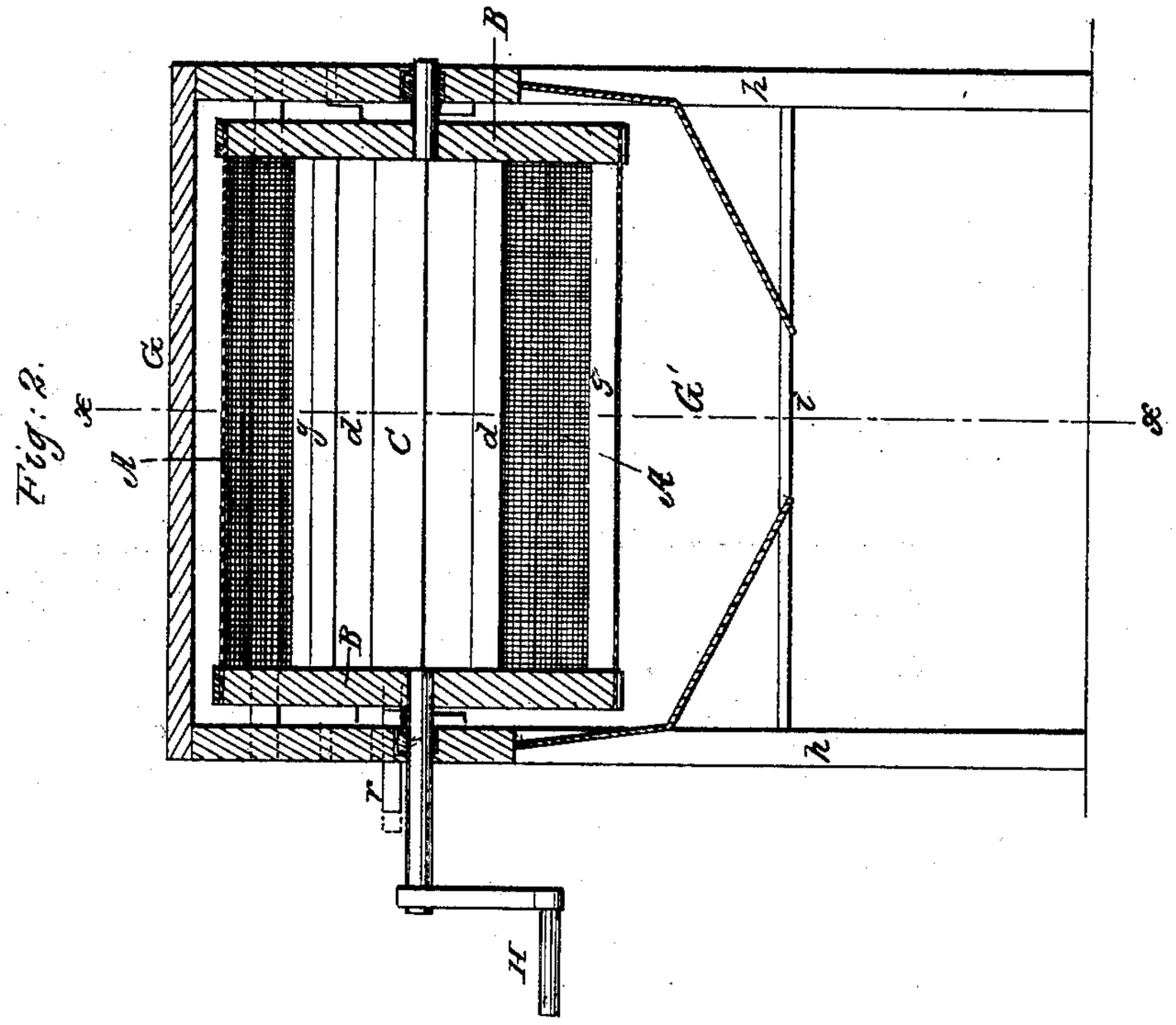
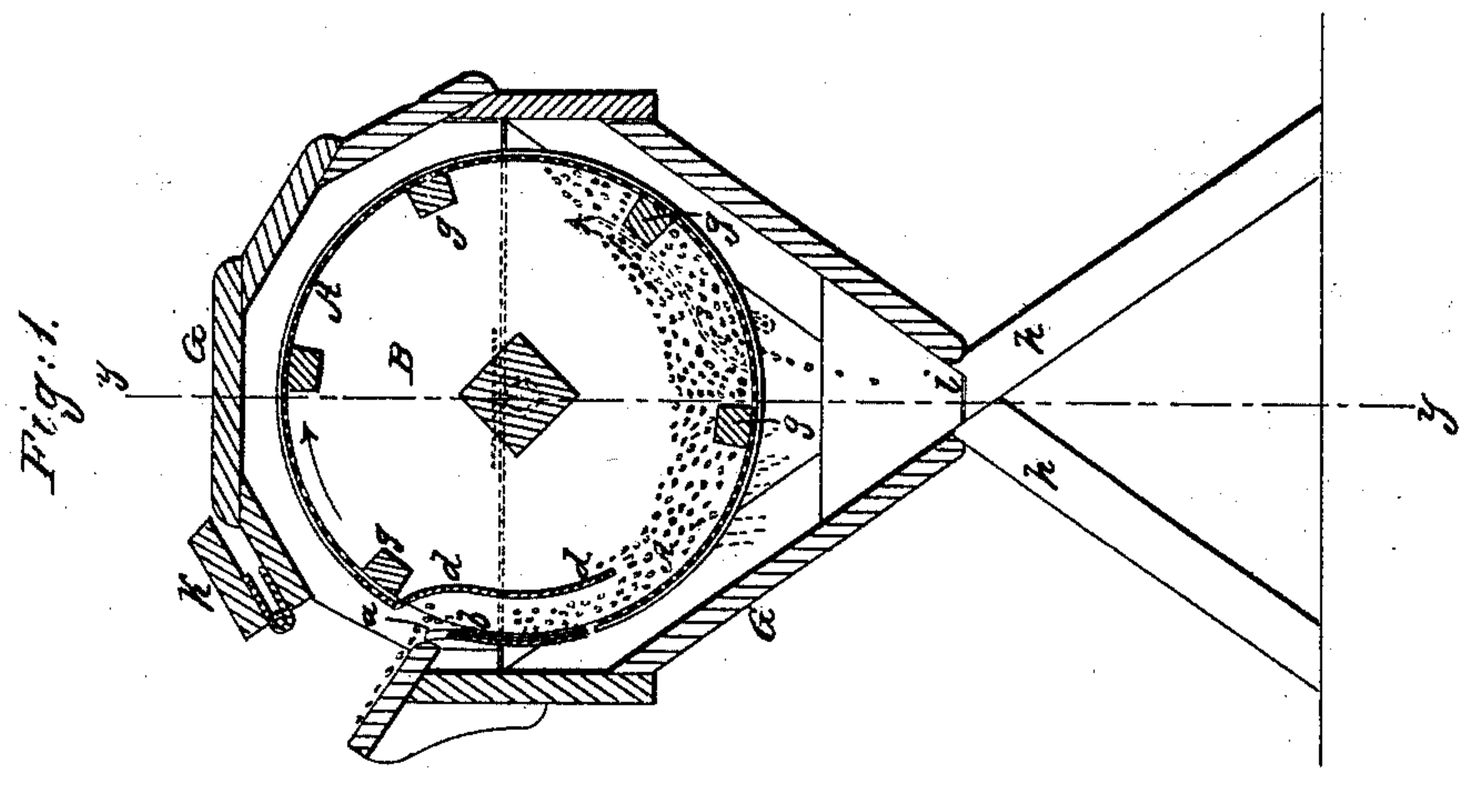


Fig. 1.



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UNITED STATES PATENT OFFICE.

G. B. BAILEY, OF GREENFIELD, INDIANA.

IMPROVEMENT IN GRAIN-CLEANERS.

Specification forming part of Letters Patent No. **37,031**, dated December 2, 1862.

To all whom it may concern:

Be it known that I, G. B. BAILEY, of Greenfield, in the county of Hancock and State of Indiana, have invented a new and Improved Machine for Cleaning Grain; and I 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 transverse section through the improved cleaner, taken in the vertical plane indicated by the red line *x x*, Fig. 2. Fig. 2 is a longitudinal section in the vertical plane indicated by red line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts in both figures.

This invention relates to the cleaning of wheat and other grain of impurities by submitting the same to a rotary screening operation.

The nature of my invention and improvement consists in constructing a cylindrical screen with a longitudinal opening in it, which is protected by a curved guard-plate arranged in such a manner over said opening that grain may be readily put into the cylinder and the cylinder rotated in one direction without the grain escaping, and by rotating the cylinder in an opposite direction the grain will all escape through the guarded opening, all as will be hereinafter described.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents a cylindrical wire sieve, which is secured to two circular solid heads, B B′. The sieve A is carried nearly around the heads B B′, leaving a narrow space, *a*, between its edges, which space extends from head B to head B′ of the cylinder. Through the center of the heads B B′ a shaft, C, passes, and is secured, the ends of which shaft project out from each head a suitable distance and serve as journal-supports for the cylinder to allow it to be rotated in either direction. On one of these edges of sieve A a plate, *b*, is secured, which is of a suitable width. This plate is curved, and its outer edge is bent outward, so as to form a tongue for receiving the grain and conducting it in the cylinder A. To the opposite edge of screen A a curved guard-plate, *d*, is suitably secured, which is curved, as represented in Fig. 1 of the drawings, forming a channel from the mouth of the opening *a* down as far as the plate *b* extends. This guard-plate *d*, as well as plate *b*, extends from one end to the other of the cylinder A, and it is through the passage formed by these two curved plates that the grain is put into the cylinder, and also emptied from the cylinder. Five or more slats or beveled strips, *g g g g*, are secured across the cylinder A, and to these pieces the screen is nailed. They not only give strength and stiffness to the cylinder, but they assist in stirring the grain during the rotation of the cylinder.

The cylinder A, above described, is mounted in a box, G, which stands on legs *h h h h*. The top of box G is arched over the cylinder A, and the bottom consists of two inclined boards, G′ G′, inclined toward each other, so as to leave an opening, *i*, at the bottom of the box. The ends of the box G are bent, as represented in Fig. 2 of the drawings, so that the grain escaping from cylinder A will all be concentrated toward the middle of the machine, where it is discharged. The projecting ends of shaft C have their bearings on metal blocks secured to the end cross-bars of box G, and to one end of the shaft C a crank-handle, H, is secured for turning the cylinder A. On one side of the arched cover of box G a narrow door, *k*, is hinged to it, which closes the opening in the cover, through which the grain is passed to the cylinder A. The inclined shelf *n* conducts the grain to the tongue of plate *b*, as shown clearly in Fig. 1 of the drawings.

The operation of my improved machine is as follows: The cylinder A is brought to the position represented in Fig. 1, so that the edge of the tongue *b* will touch the edge of the inclined shelf *n*, and by moving button *r* (shown in Fig. 2) inward it will secure the cylinder in its position. The door *k* is now raised, and the grain to be cleaned is put into cylinder A through the opening *a* in this cylinder. The door *k* is now closed, and the cylinder A can be rotated in the direction indicated by the black arrow in Fig. 1 as fast or as slow as desired without any of the grain escaping from the cylinder. The cylinder A is therefore rotated in this direction until the grain is properly cleaned, when all the grain

can be discharged from the cylinder by rotating it in an opposite direction to that indicated by the black arrow. The curved guard-plate *d* prevents the grain from escaping from opening *a* in the cylinder when the cylinder is rotated in one direction, and this same guard-plate assists in conducting the grain rapidly out of the cylinder when turned in the opposite direction, as indicated by the red arrow in Fig. 1.

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

The curved guard-plate arranged over the space *a* in cylinder A, as herein set forth, for the purposes specified.

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Witnesses:

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