

H. OGBORN & J. W. FREE.
GRAIN SEPARATOR.

No. 41,232.

Patented Jan. 12, 1864.

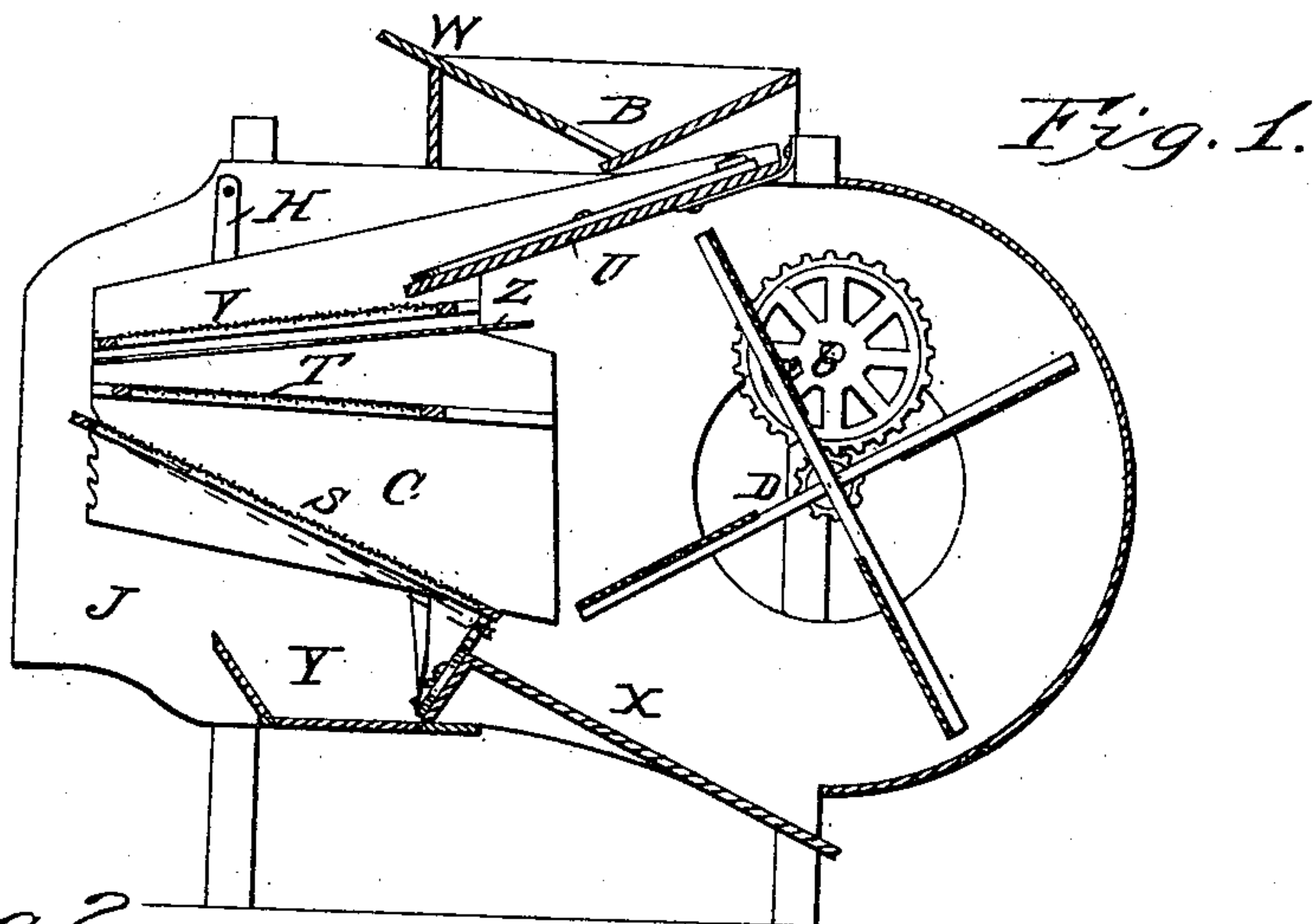


Fig. 2.

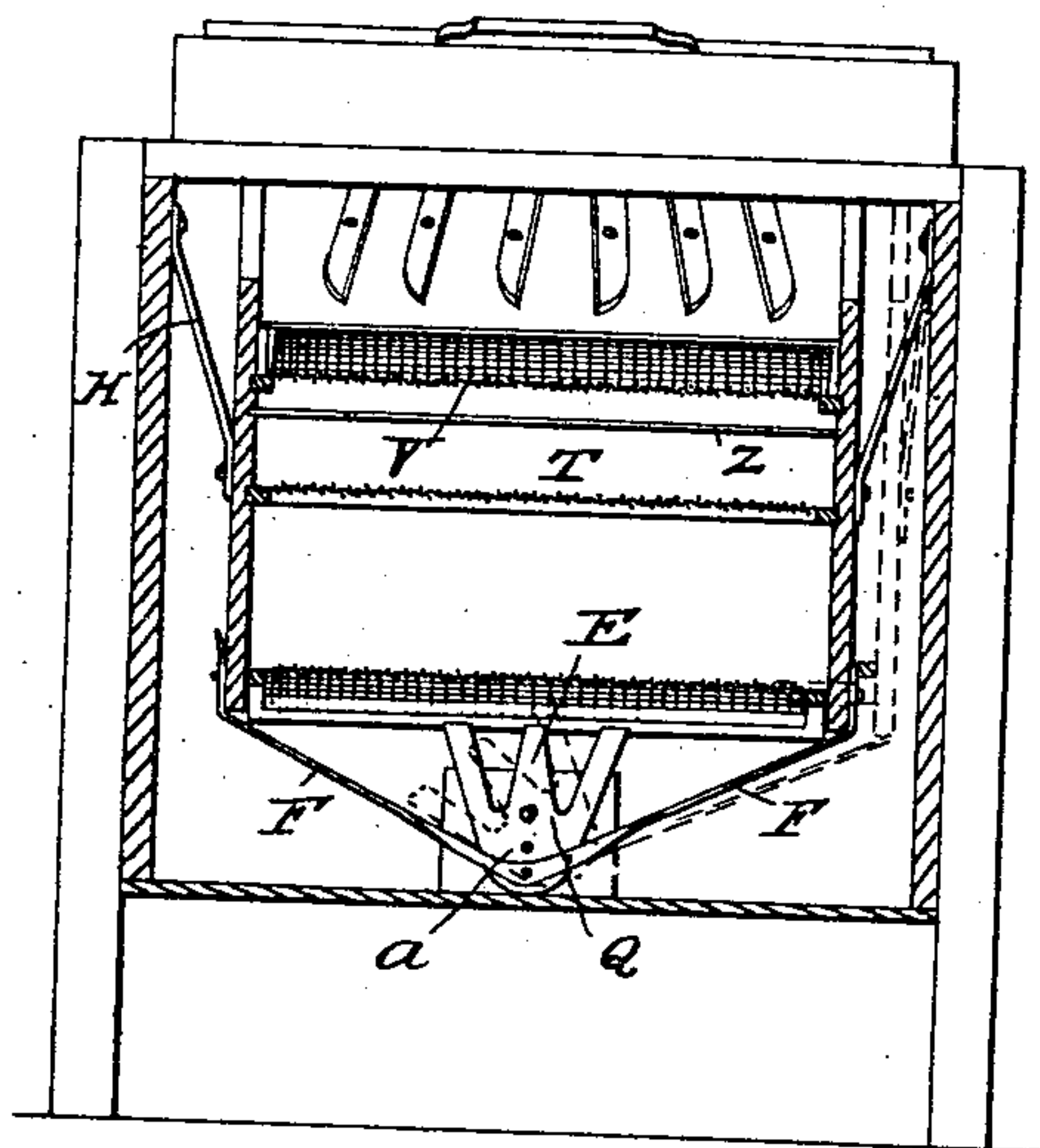


Fig. 3.

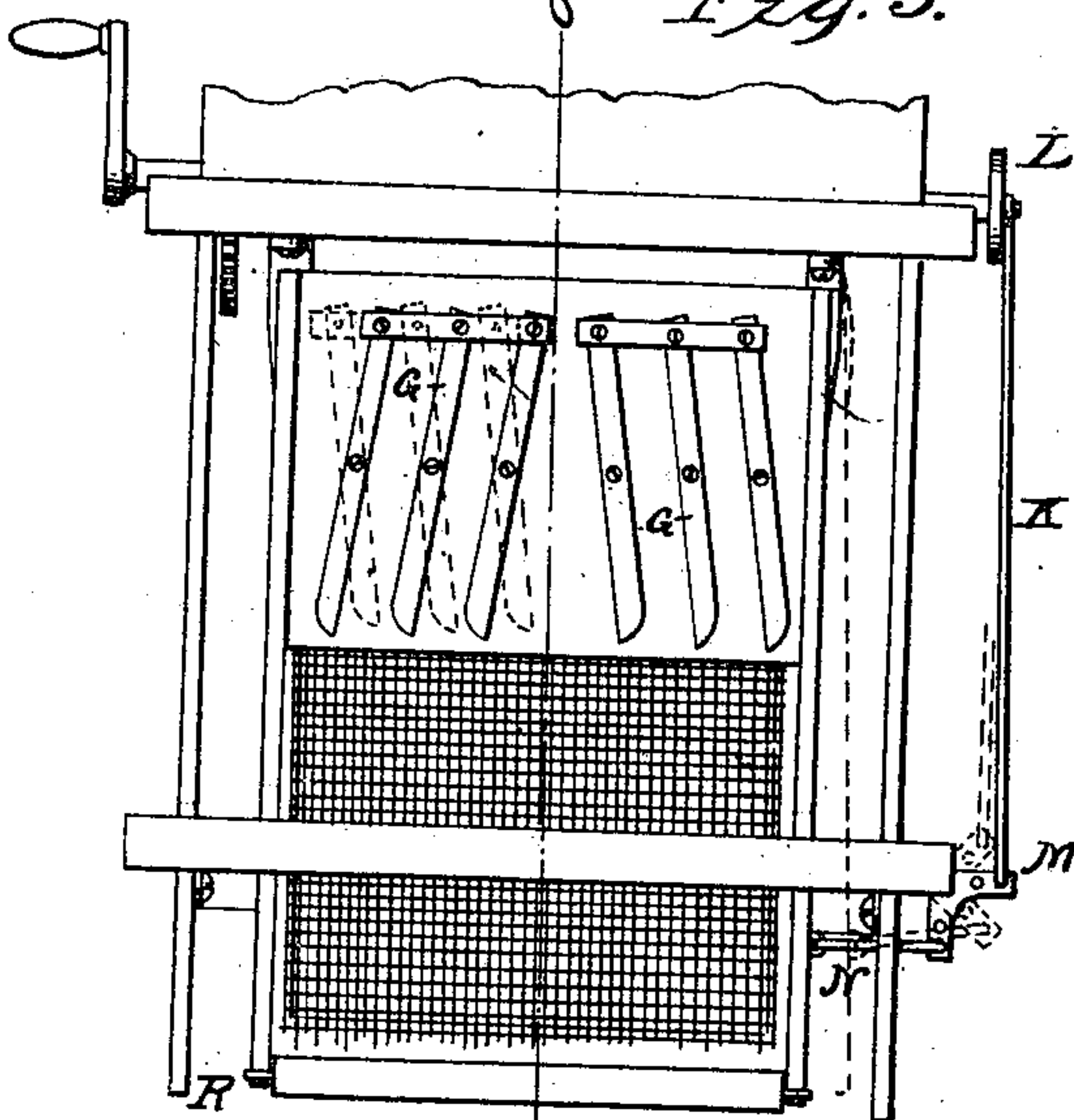
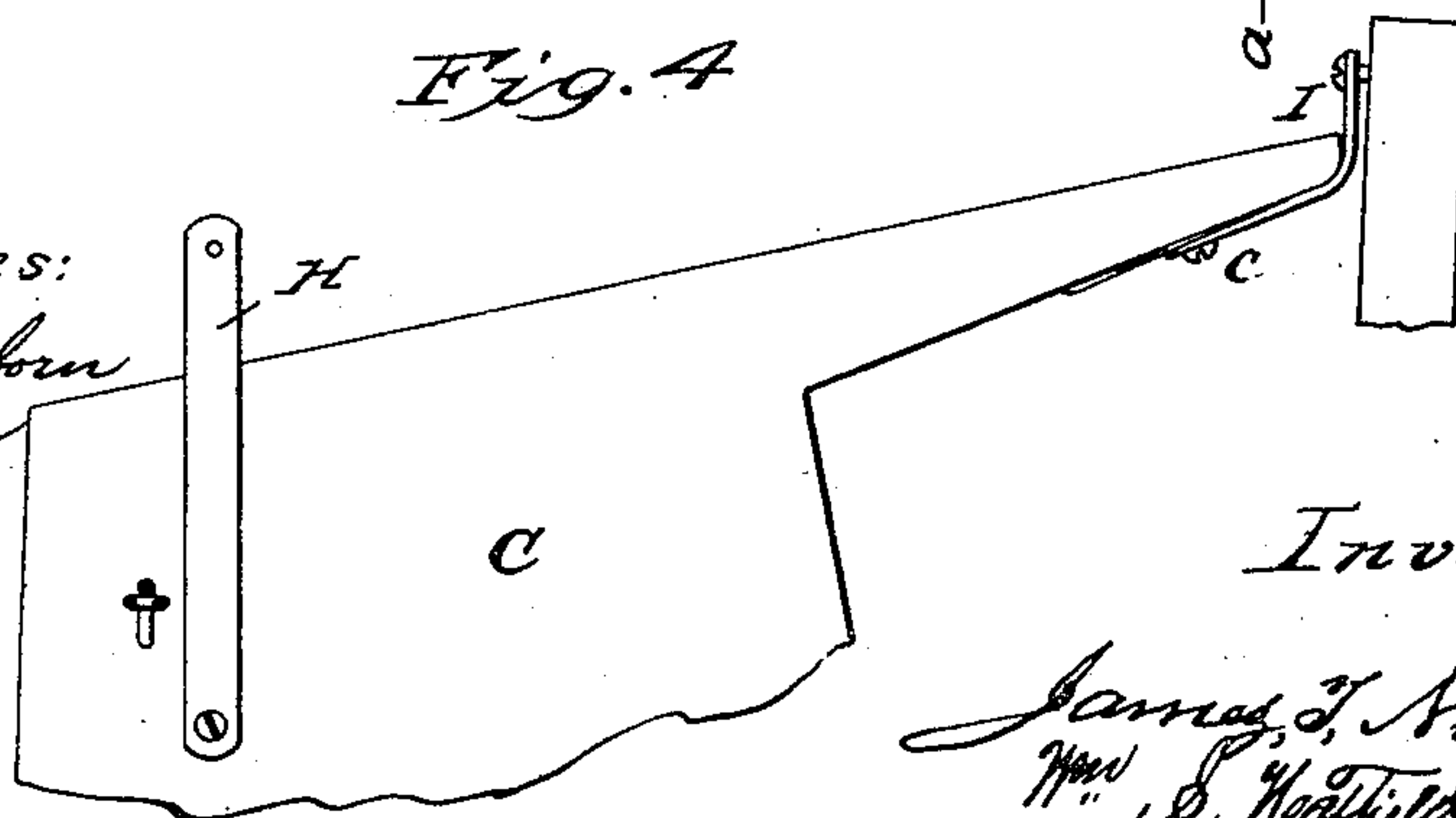


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

HARRISON OGBORN AND JNO. W. FREE, OF GREEN'S FORK, INDIANA.

IMPROVEMENT IN GRAIN-SEPARATORS.

Specification forming part of Letters Patent No. 41,232, dated January 12, 1864.

To all whom it may concern:

Be it known that we, HARRISON OGBORN and JOHN W. FREE, of Richmond, in the county of Wayne and State of Indiana, have invented a new and Improved Grain-Separator; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a longitudinal vertical section. Fig. 2 is a transverse vertical section. Fig. 3 is a plan or top view with the hopper removed. Fig. 4 is a side elevation of the shoe.

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

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

J represents a box or case, which may be constructed in much the usual way, to receive and hold the working parts of the machine.

B is a hopper, which is placed on the upper part of the box or case J, and is provided with a slide, W.

In the box or case J, and directly underneath the hopper B, a shoe, C, is placed. This shoe is suspended in the box or case by strips of iron, H, or other suitable material, at its back part, one at each side, and by straps of leather, I, or other suitable material, attached at the front end of the shoe at the corners of the same.

At the front end of the case or box J there is a fan, D, from one end of the shaft of which a shake motion is given the shoe C by an eccentric, L, connecting-rod K, bell-crank M, and shackle N.

Directly under the shoe there is a shaker or rocking lever, the office of which is to shake the wheat-screen S. The top part of the apron or wheat-board U is provided with adjustable guide-ribs to spread the grain evenly on the apron. The inner ends of the adjustable ribs or guides G extend from a point underneath and in front of the discharge-orifice in the hopper.

V is a coarse screen, which is placed in the upper part of the shoe C. This screen is slightly inclined downward at its back end, while the front end is in contact with the apron U.

Immediately below the screen V is a chess-board, Z, as shown in Figs. 1 and 2, which chess-board is adjustable.

In the lower part of the shoe C there is placed an inclined screen, S, the front end of which is the depressed or lower end, as shown clearly in Fig. 1. This screen has inclined side pieces to prevent the wheat falling off at the sides of the screen. It is also provided with pins R at its back or elevated corners, which pins fit into notched plates P, Fig. 1.

The inner or front end of the screen S rests on the rocking lever or shaker E, which is placed immediately below the front part of screen S. This rocking lever is secured firmly to some part of the machine by the screw Q, which holds it to its place, as shown in Fig. 2. This rocking lever is supplied with a number of pins, as shown at a in Fig. 2, to which is attached the straps F, the other ends of said straps being fastened to the shoe near the lower front corners of the same in such a manner that the motion of the shoe will cause a rocking or vibratory motion to be communicated to the rocking lever, thus throwing the front end of the screen S in a vertical direction at each motion of the shoe, and as it comes down it strikes the middle or center piece of the rocking lever, thus shaking any grain through that had caught fast in the screen S.

Immediately beneath the screen S is a box, Y, Fig. 1, into which the foul stuff from all seeds is collected.

X is a wheat-board that conducts the grain from the screen S to the point where it is discharged from the mill.

The master-wheel b is placed on the inside of the frame or post J, to which it is firmly bolted.

The operation is as follows: The fan-shaft is rotated by any convenient power, and the grain to be operated upon is placed in the hopper B, and is allowed to pass upon the apron U in greater or less quantities by regulating the slide W. The apron U conducts the grain to the screen V, and the adjustable ribs or guides G spread the grain and seeds evenly over the chute-board U, screen V, and screen S, thereby causing the wind to strike the grain-seeds and foul substances in a uniform manner, producing a perfect separation by throwing the chaff and foul substances out back of the machine, the cockle and small grain falling through the screen S into the chess-box Y, while the wheat and large grain

pass down over the screen S and wheat-board X onto the floor.

This mill is also used for cleaning timothy, clover, Hungarian, flax, and hemp seed by contracting or enlarging the wind-holes, and using the screens corresponding to the kind of seeds or grain to be cleaned.

By having the inner part of the screen S rest on the rocking lever E, said rocking lever being attached to the shoe C by the strips F, the shoe C being suspended by the strips H and straps I, we are enabled to communicate to the shoe a circular motion, and to the screen S, in addition to the motion of the shoe, a vertical motion at each side motion of the shoe, and as it comes downward each time by its own weight it receives a slight knock from the middle piece of the rocking lever, thus producing a combination of motions, in combination with the blast from the fans, calculated to clean the grain or seeds in the most speedy and perfect manner possible.

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

1. The adjustable guide-ribs G, constructed and operated substantially as and for the purpose herein set forth.

2. The suspending-straps I, attached to the under side of the front end of the shoe at c, substantially as described.

3. The combination of straps I, shoe C, and guide-ribs G, as and for the purpose set forth.

4. The rocking lever E, constructed as described, in combination with the straps I and shoe C.

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