(No Model.)

J. SENDALL.

BARLEY BEARDING MACHINE.

No. 254,846. Patented Mar. 14, 1882.

Fig: 1

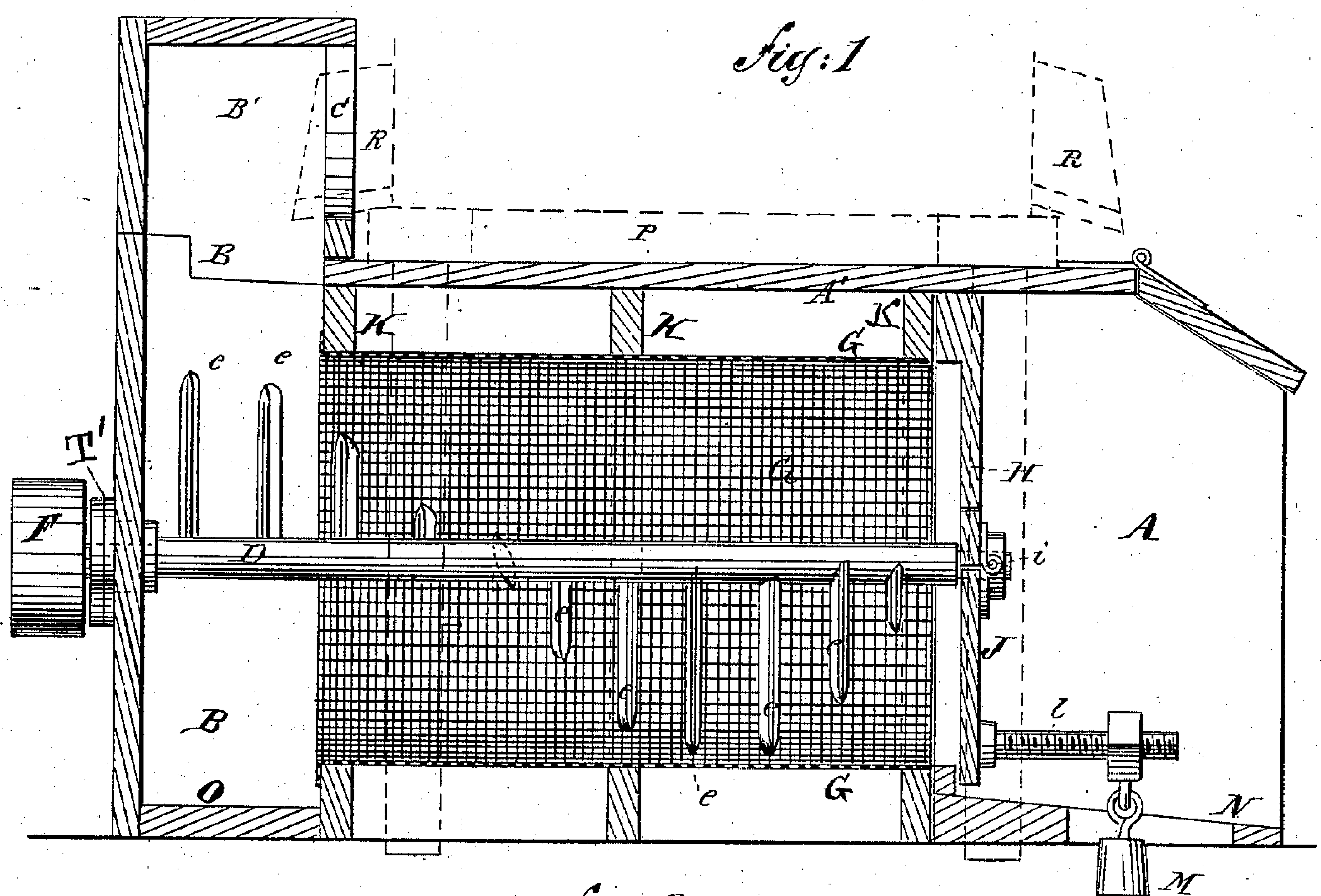
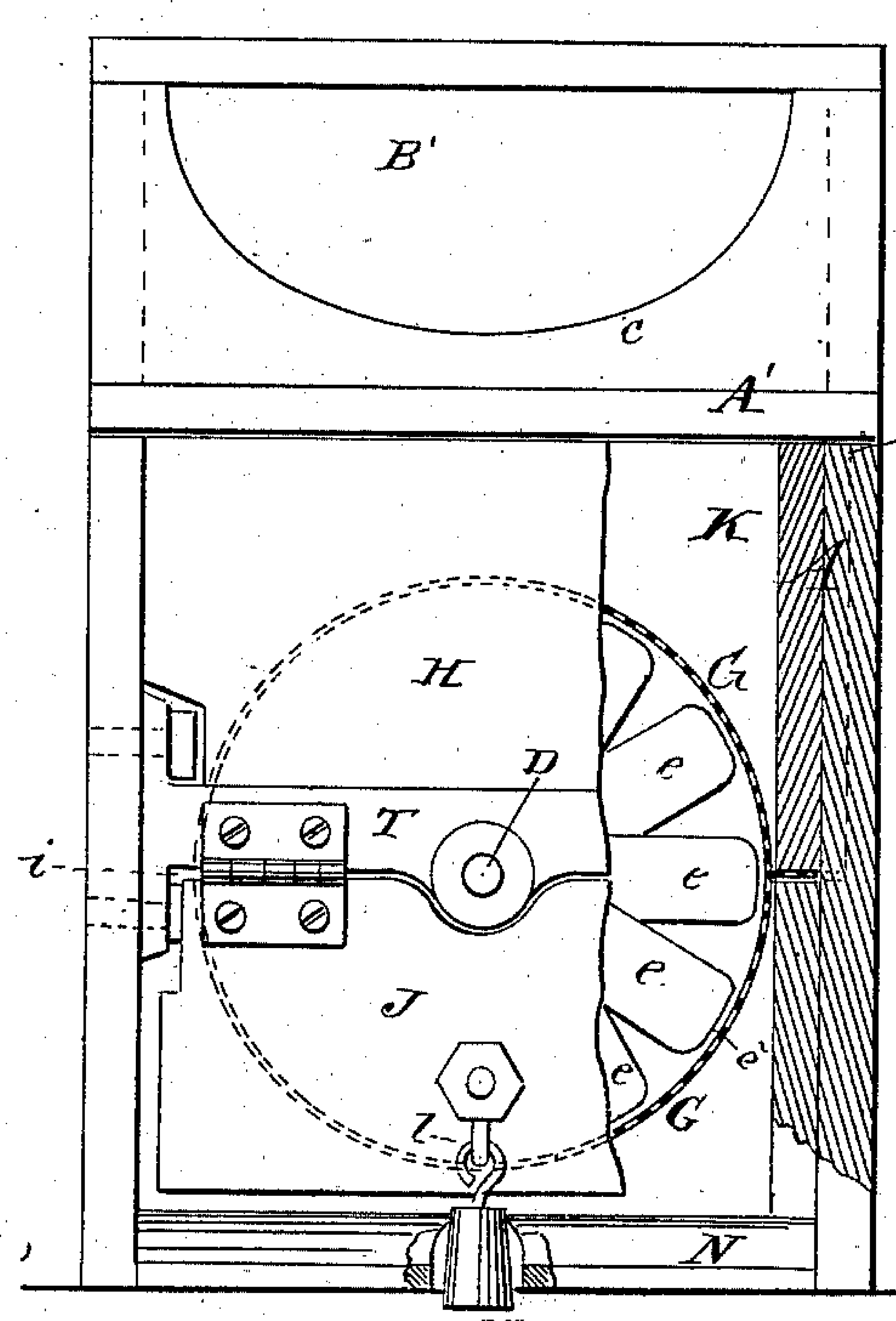


Fig: 2.



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UNITED STATES PATENT OFFICE.

JAMES SENDALL, OF BROCKPORT, NEW YORK, ASSIGNOR OF ONE-HALF TO DOWAIN RICHARDS, OF SAME PLACE.

BARLEY-BEARDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 254,846, dated March 14, 1882.

Application filed September 8, 1880. (No model.) Partly patented in Canada April 26, 1881.

To all whom it may concern:

Be it known that I, JAMES SENDALL, of Brockport, in the county of Monroe and State of New York, have invented a new and useful Improvement in Barley-Bearding Machines, of which the following is a specification.

My invention has reference to barley-bearders adapted to be operated independently or in connection with the usual separator; and it consists in mechanism fully set forth in the following specification, and shown in the accompanying drawings, which form part thereof.

The object of my invention is to clean and make a perfect separation of the grain from small stones, dirt, straw, &c., and remove from the barley the "awn" or beard, and to produce an automatic machine adapted to be worked separately or in conjunction with a separator.

In the drawings, Figure 1 is a longitudinal section of a barley-bearder embodying in it my invention. Fig. 2 is an end view of same with part in section.

A is the body or frame of the machine, the two side and bottom boards of which are secured to the head T, which also carries the bearing for the shaft D. The other end of the machine is braced by cross-brace T′, carrying the other bearing of the shaft D, and the rear end is closed in by the end head, H, of wood. Located within and formed in said frame or body, and within frames K, is a semicircular screen or sieve, G, which is open to the ground beneath, to allow any dirt to fall clear of the machine. The cover A′ closes the top of the machine, and is hinged or otherwise attached so that it can be easily removed.

Located at the feeding end of the screening-cylinder is a compartment or chamber, B, which is depressed or extends below the bottom of the cylinder, as at O. The upper part of said chamber B extends some distance above the machine, as at B′, and is removable and is provided with an inlet or feeding opening, C. This extension B′ allows the bearder to be placed under a separator and receives the grain from the grain-spout. The discharging end of the cylinder is provided with an automatic discharge-door, J, hinged at *i*, and provided with an extending screw-arm, *l*, upon which an adjustable regulator-weight, M, is secured. This door is arranged vertically, and is so constructed that as the discharge becomes greater the door exerts a greater force to resist such discharge, thereby causing the machine to perform its work more surely. This gradually-increasing force of gravity to close the door automatically with the gradually-increasing discharge of grain is a very important feature, and differs from all discharge-doors heretofore constructed. Located below said door is the inclined discharge-floor N.

Rotating within the screening-cylinder, and having bearings in head T and brace T′, is the shaft D, to the end of which is secured a driving-pulley, F. This shaft D carries a series of spirally-arranged blades or beaters, *e*, which are secured to the shaft and set at an angle to same, thereby causing the grain to be fed through the cylinder by mechanical means and not relying on gravity and an inclined cylinder to do it. These blades also extend into the chamber B.

The separators are usually provided with a discharging-chute, R, on either side of same, one of which is discharging at any one time. Therefore, by the extension B′ a chute, R, may discharge into the chamber B direct, as shown.

The operation is as follows: The shaft D and its blades *e* being rotated at a comparatively high degree of velocity, the grain is received from chute or spout R into the extension B′ and chamber B, where it is immediately agitated by beaters *e*, and any stones, hard dirt, or other heavy solid substance which might prove injurious to the screen pass to the bottom O of the chamber by gravity, and out of reach of the blades, and the grain passes into the cylinder, where it is acted on by the beaters *e*, which, by their peculiar shape and position, cause the grain to be forced slowly but surely through the cylinder, and at the same time separates the same from straw, dirt, &c., and cleans the barley perfectly of the beard or awn. The discharging grain forces open the door J, runs down the slide or incline N, and into the basket or other receptacle located thereunder, while any dirt, &c., is forced through the screening-cylinder to the ground.

In this application I do not claim the man-

ner of adjusting the bearder to the separator, nor the peculiar construction of the beaters, as these will form subject-matter of another application.

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

1. A barley-bearder consisting of a chamber at the feeding end, provided with a bottom depressed or lowered below the screening-cylinder to form a box, in combination with a screening-cylinder and a rotating shaft provided with spirally-arranged beaters or blades, substantially as and for the purpose specified.

2. A barley-bearder consisting of a chamber at the feeding end, provided with a bottom depressed or lowered below the screening-cylinder to form a box, in combination with a screening-cylinder opening therefrom, an automatic discharge-door, and a rotating shaft provided with a series of spirally-arranged blades or beaters, substantially as and for the purpose specified.

3. In a barley-bearder, a screening-cylinder in which the grain is treated, in combination with a feed-chamber at one end, into which said cylinder opens, said chamber extending below the bottom of the cylinder to separate stones, dirt, &c., from the grain fed into the chamber, to prevent its passing into the cylinder with the grain, and means to feed the grain to be treated from the feed-chamber into the cylinder, substantially as and for the purpose specified.

4. In a barley-bearder, a chamber to separate stones, dirt, &c., from the grain, located in the feeding end of the machine, the bottom of said chamber being depressed or lowered some distance below the screening-cylinder to form a box, in combination with said cylinder, and an extension of said chamber above the body of the machine, and provided with a feeding-aperture located on the side facing the rear end of the machine, as and for the purpose specified.

5. A discharging-door for a barley-bearder in which the door is hung and arranged with reference to the center of gravity, so that it exerts automatically an increased pressure to close itself in proportion as the discharge increases, and vice versa, in combination with a screening-cylinder and means to feed the grain through said cylinder and door, as and for the purpose specified.

6. In a barley-bearder, a screening-cylinder, in combination with a vertical door hinged at the top and provided with an arm and a regulating-weight adjustable thereon, said door operating to increase its tendency to close in proportion as the discharge of grain increases, and vice versa, as and for the purpose specified.

7. In a barley-bearder, the combination of the screening-cylinder G, supported in a frame, A, open on the bottom, with chamber B, having bottom O below the cylinder G, shaft D, with spirally-arranged beaters *e*, and discharge-door J, as shown and described.

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Witnesses:
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