No. 83,096. PATENTED OCT. 13. 1868.

G. RICHARDS & D. STRICKLAND.

FANNING MILL.

Fig. 1.

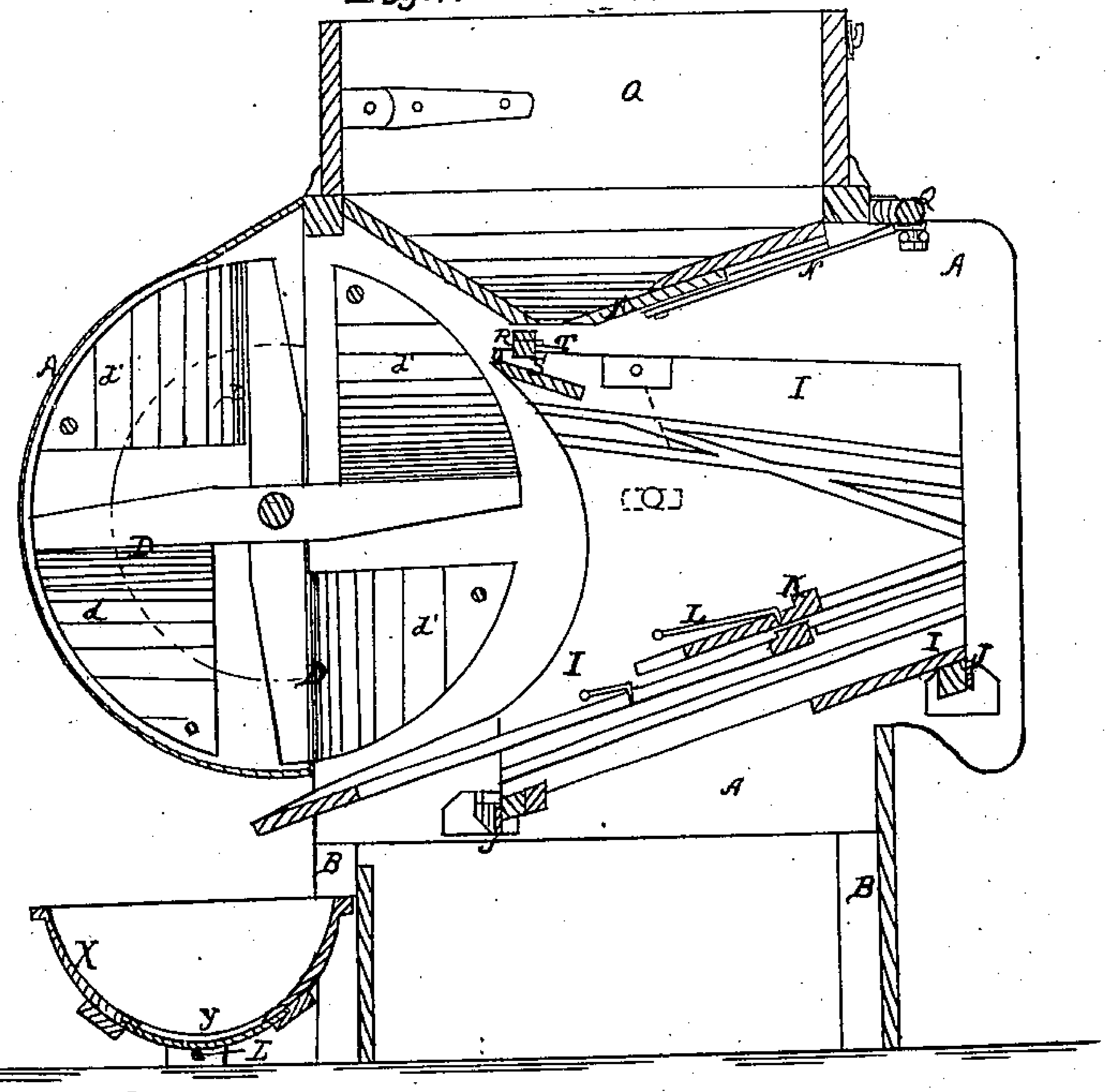


Fig. 3.

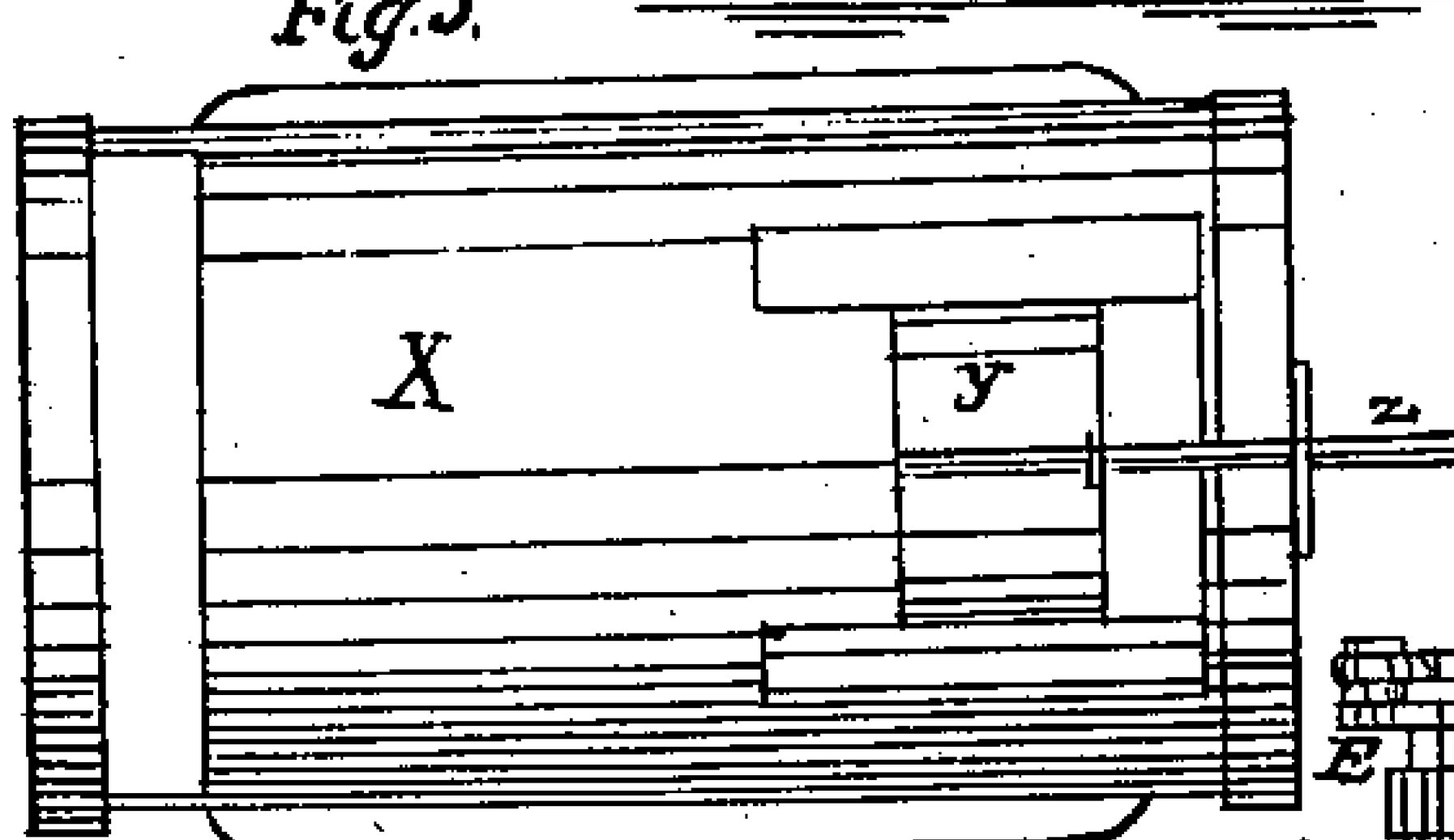


Fig. 2.

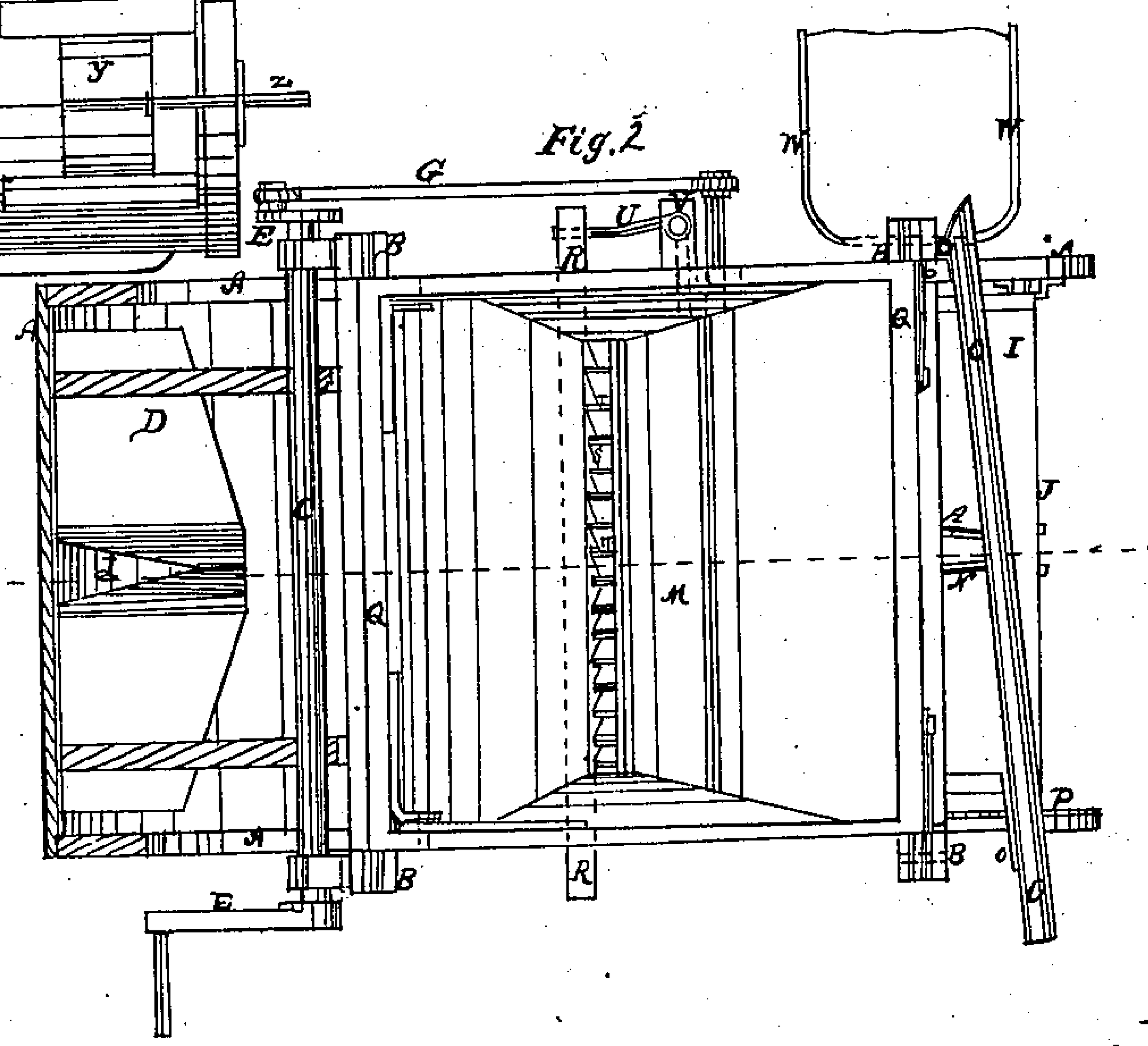
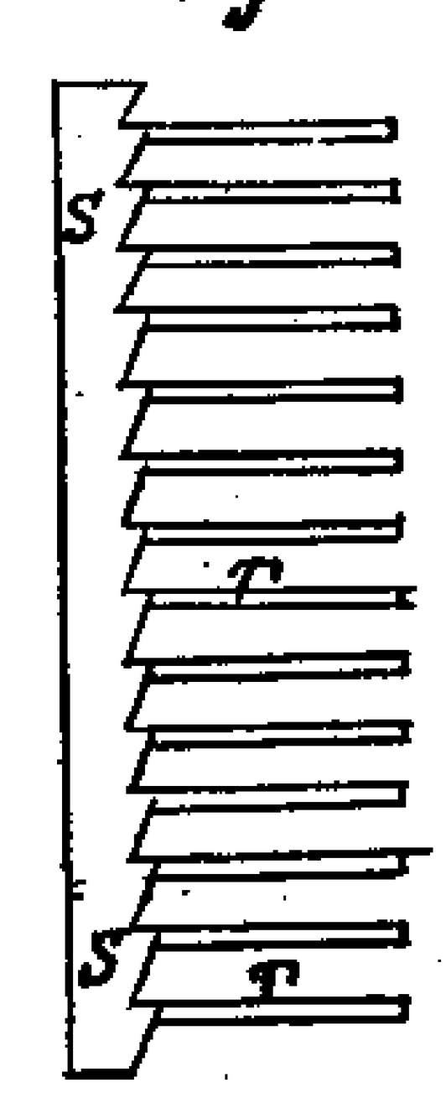


Fig. 4.



Witnesses

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[illegible]

Inventor

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GEORGE RICHARDS AND DAVID STICKLAND, OF RICHLAND CENTRE, WISCONSIN.

Letters Patent No. 83,096, *dated October* 13, 1868.

IMPROVEMENT IN FANNING-MILLS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, GEORGE RICHARDS and DAVID STICKLAND, of Richland Centre, in the county of Richland, and State of Wisconsin, have invented a new and useful Improvement in Fanning-Mills; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical longitudinal section of our improved machine, taken in the line *x x*, fig. 2.

Figure 2 is a top or plan view of the same, partly in section, through the air or fan-chamber.

Figure 3 is an under-side view of the receiving-box or measure.

Figure 4 is a detail view of a modified form of the agitator.

Similar letters of reference indicate corresponding parts.

Our invention has for its object to improve the construction of fanning-mills, so as to make them more convenient and effective in operation; and it consists in the construction and combination of the various parts, as hereinafter more fully described.

A is the box or case of the mill, which is attached to the posts B in the ordinary manner.

C is the fan-shaft, which revolves in bearings attached to the rear posts B of the mill, and to which the fans D are attached.

The fans D are attached to the shaft C in the ordinary manner, may be made of wood or metal, and are formed with projecting wings *d'* upon or at their central points, which receive the streams of air as they pass into the air-chamber, and deflect them so that they may be propelled in a direct line through the shoe, thus avoiding the counter-currents into which the air is thrown when the fans are formed in the ordinary manner.

To one end of the shaft C is attached the crank E, by which the mill is operated, and to its other end is attached a crank or crank-wheel, F, to which is pivoted the rear end of the connecting-rod or bar G, the other end of which is connected to or formed solid with the rod H, which passes in through a slot in the side of the box or case A, and is connected to the shoe I, so that the said shoe may be moved forward and back longitudinally by the revolution of the fan-shaft C.

The shoe I is supported in the central part of the shoe-chamber by the springs J, the centres of which are secured to the centres of the lower cross-bars of the said shoe at its front and rear ends.

The ends of the springs J rest in slotted supports attached to the inner sides of the box or case A.

The springs J support the shoe in its central position, allow it to be moved forward and back by the connecting-rod G H, and again bring it to its central position upon the return movement of said rod.

K is a board, the ends of which work in inclined grooves in the sides of the shoe I, and which has an upwardly-projecting flange formed upon its rear or higher edge.

The board K is adjustably secured in place by the hooks L pivoted to the sides of the shoe I, and which enter one or the other of the holes in the said board K. By adjusting this board, the heavy and perfect kernels may be caught and conducted to the front of the mill, while the lighter, imperfect kernels, the lighter grains, and seed may be blown over the rear edge of said board, and pass out at the bottom of the mill.

The top of the box or case A, which also forms the bottom of the hopper, is made hopper-shaped, and with a wide slot or opening across its central part, through which the grain passes to the shoe I. This slot or opening may be partially or wholly closed, to regulate or prevent the passage of the grain by the gate M, the ends of which slide back and forth in grooves formed upon the under sides of the top of the case A.

To the gate M are attached the ends of one or more connecting-rods, N, the rear ends of which are pivoted to the lever O, one end of which is pivoted to one of the posts B of the mill, and the other end projects at the other side of the mill, so as to be easily reached and operated.

To the bar or lever O is attached a bar or plate, *o'*, the edge of which takes hold of the teeth of the ratchet-bar P, to hold the gate M securely in place when adjusted.

Q is the hopper, which is made rectangular in form, and of the same size as the top of the mill, to which it is secured by dowel-pins, as shown in fig. 1. One end of the hopper may be made removable, being secured to the ends of the side-boards by hooks, as shown in figs. 1 and 2. The other ends of the side-boards may be pivoted to the other end-board, as shown in figs. 1 and 2, so that the said hopper may be turned up without moving the said end. This construction enables the hopper to be adjusted according to the amount of grain to be put in at a time, or so that the grain need not be raised so high in putting it into said hopper.

R is a bar, the ends of which pass through and work in holes in the sides of the case A, just below the forward side of the opening in the top of the case.

To the under side of the bar R is attached a movable notched bar, S, having fingers T attached to it. Several bars R may be kept for use, having fingers T of different lengths, so that one or the other may be

used, according to the amount of chaff, short straw, or rubbish that may be in the grain.

To one of the projecting ends of the bar R is pivoted the end of the bent lever U, which is pivoted at its angle to supports V attached to the side of the case A, and its other end passes through a slot in said case, and is connected to the shoe I, so that the movements of the said shoe may communicate a reciprocating movement to the agitator R S T.

W is the bag-holder, which is made in the shape shown in fig. 2, and with teeth or prongs formed upon it to enter the bag and prevent it from slipping off. The bag-holder W is removably inserted in slots formed in the posts of the frame of the mill, so that it may be attached to the one or the other of said posts as may be most convenient.

X is the receiving-box, which is made of such a capacity as to contain exactly half a bushel, or some other desired quantity, and which is placed in front of the mill to receive the cleaned grain as it flows forth.

An opening is formed in the bottom of the measure X near one end, which opening is closed with a sliding gate, Y, to which a rod, Z, is attached, passing out at the end of said measure.

When the measure is full, it is raised so that the opening in its bottom may be directly over the mouth of the bag, and so that the end of the rod Z may rest against the post B, to which the bag-holder is attached. Then, by pushing against said measure, and slightly raising its outer end, the gate Y will be opened, and the grain will flow out into the bag.

We claim as new, and desire to secure by Letters Patent—

1. The adjustable sliding flanged board K, constructed and arranged substantially as herein shown and described, in combination with the shoe I, as and for the purpose set forth.

2. Suspending the shoe I in the centre of the shoe-chamber, by means of the springs J, substantially in the manner herein shown and described, and for the purpose set forth.

3. The combination of the sliding gate M, connecting-rod or rods N, lever O, and ratchet-bar P with each other and with the opening in the top of the case A, substantially as herein shown and described, and for the purpose set forth.

4. The rectangular hopper Q, constructed and arranged substantially as herein shown and described, in combination with the hopper-shaped top of the case A, as and for the purpose set forth.

5. The fans D, formed with projecting wings *d'* upon their central parts, substantially as herein shown and described, and for the purpose set forth.

6. The bag-holder W, constructed substantially as herein shown and described, in combination with one of the posts B of the frame of the mill, as and for the purpose set forth.

7. The receiving-measure, formed by the combination of the sliding gate Y and rod Z with the box X, substantially as herein shown and described, and for the purpose set forth.

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DAVID STICKLAND.

Witnesses:
MILTON SATTERLEE,
GEORG W. MCPHEETERS.