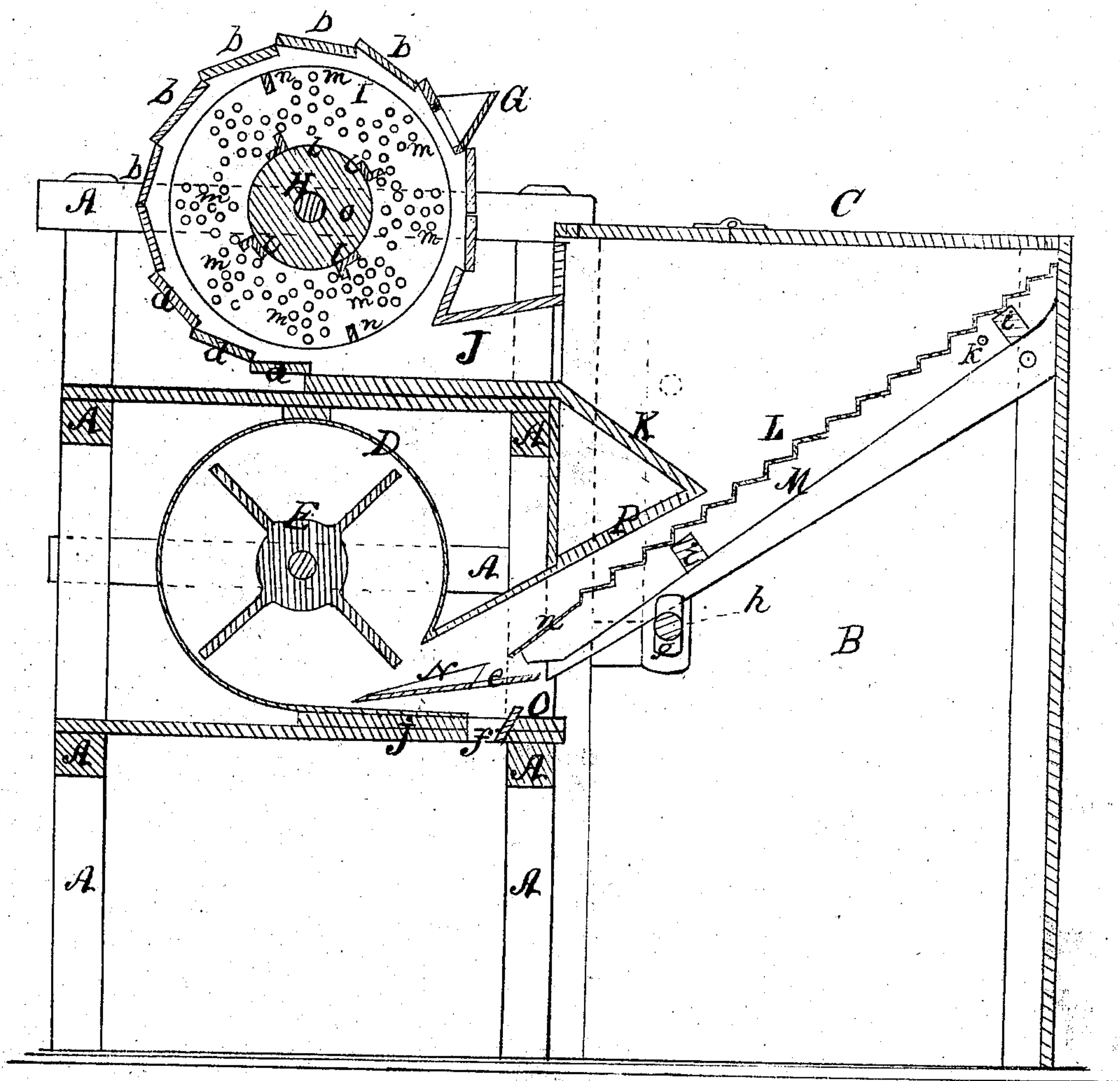


No. 83,438.

PATENTED OCT. 27, 1868.

J. E. ANDERSON.
GRAIN CLEANER.



Witnesses
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JOHN E. ANDERSON, OF BOILING SPRINGS, PENNSYLVANIA.

Letters Patent No. 83,438, dated October 27, 1868.

IMPROVEMENT IN GRAIN-CLEANER.

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

To all whom it may concern:

Be it known that I, JOHN E. ANDERSON, of Boiling Springs, in the county of Cumberland, and State of Pennsylvania, have invented a new and useful Improvement in Grain-Cleaners; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which the figure represents a sectional side view of the invention.

Similar letters of reference indicate like parts.

The object of this machine is to accomplish the cleaning of grain in the most effective and perfect manner, and with the fewest and simplest arrangements of parts.

It consists, in general terms, of a scouring-wheel, revolving with high speed, which encounters the entering grain and agitates it, thereby thoroughly loosening it from the chaff and cockle. The grain is then delivered from this wheel upon an inclined screen, when it encounters a blast of air from a revolving fan-wheel or blower, located within the general frame of the machine, and immediately below the scouring-wheel.

The screen is not a plane surface, heretofore used, but is corrugated in the form of steps, running cross-wise to the direction of the blast from the fan-wheel, so that the kernels of cleaned grain will catch against the corrugations, and retained from being blown out with the chaff.

Other devices, perfecting the operation of the machine, will be set forth in the following specific description of the same, which latter is made with reference to the accompanying drawing.

The general frame of the machine is lettered A A, &c., and contains the fan-wheel E, within the drum D, which latter connects with the board P, and also with the bottom plank j, thus leaving an opening at the foot of the inclined screen L; the upper surface of which latter receives the blast of air from the fan-wheel through openings in the drum, before described.

The screen is affixed to a frame, M & i, which latter is pivoted at its upper end on a cross-rod, k, on which it vibrates vertically, when actuated to do so, by the revolution of the projections on the shaft h, the latter being revolved by a pulley on its end, exterior to the frame of the machine.

The scouring-wheel is enclosed within a drum, of wood or sheet-iron, or other suitable material, and the grain enters the said drum through the hopper G, opening into the drum, as shown. After passing through the wheel, the grain is thrown out at J, and descends on the chute-board K on to the screen, where it encounters the blast at the lower edge of the chute-board K, which blows the chaff through the screen into the chaff-box B.

The "chess" and "cockle," so called, also pass through the meshes of the screen, and fall into the box B, while the cleaned grain is shaken down, and falls from the screen through the opening e, in the plate N, and also

through the opening f, in the bottom of the frame, where it is caught in any suitable receptacle placed underneath the latter opening.

The drum containing the scouring-wheel is formed with lapping staves, b b b, &c., as shown, the upper half presenting the edges of the staves to arrest the centripetal tendency of the grain as it is thrown off from the wheel, and react it again into the wheel, thereby preventing its too rapid delivery from the same.

The staves of the lower half are set in a reverse manner, to prevent the lodgment of the grain upon them, and to cause its reaction against the wheel in falling from the abrupt edges of the staves.

The drum is lined with sheet-iron or zinc, or it may be wholly made of sheet-iron or zinc, corrugated, to imitate the lapped staves.

The scouring-wheel consists of a hub-boss, H, on a shaft, o, and provided with flanges, I, which latter contain radial groups of transverse rods, m, of metal, and cross-vanes, n, connecting their peripheries.

The hub-boss H is also provided with the cross-vanes l, which conduce to the agitation of the grain by throwing it from the hub centrifugally among the rods.

The plate or block N is for the purpose of directing a portion of the blast through the opening O into the chaff-box B, and is made in a wedge-form, so that the heaviest part of the blast, which acts against the screen, will not get under the bottom plate n when it is at its lowest point of vibration.

The stop-board p is for the purpose of keeping the grain from being blown into the chaff-box as it encounters that part of the blast through O.

The board P, joining the chute K, is for the purpose of contracting the blast, so that it may act with the maximum intensity upon the grain as it falls from the said chute.

Q is a wall, which is set out from the wall of the box. There are two such boards, one on each side of the screen-frame M, and against which the latter works with easy contact.

There are two pulleys on the shaft of the scouring-wheel, and two on the shaft of the fan-wheel, and a pulley on the shaft h, which agitates the screen.

One of the pulleys on the shaft o bears a belt from the power-pulley which drives the machine; the other pulley on the shaft o drives a belt running on the fan-wheel; and the second pulley on the fan-wheel shaft drives a belt on the pulley of the agitator-shaft h.

Having thus described my invention,

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

1. The scouring-wheel, substantially as described, when forming part of a grain-cleaner, all as set forth.
2. The arrangement of the scouring-wheel above the fan-wheel, with the chute-board K, inclined screen L, and chaff-box B, all substantially as set forth.

JOHN E. ANDERSON.

Witnesses:

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