H. BURDICK.

Grain Separator.

No. 99,835. Patented Feb. 15, 1870.

Fig. 1.

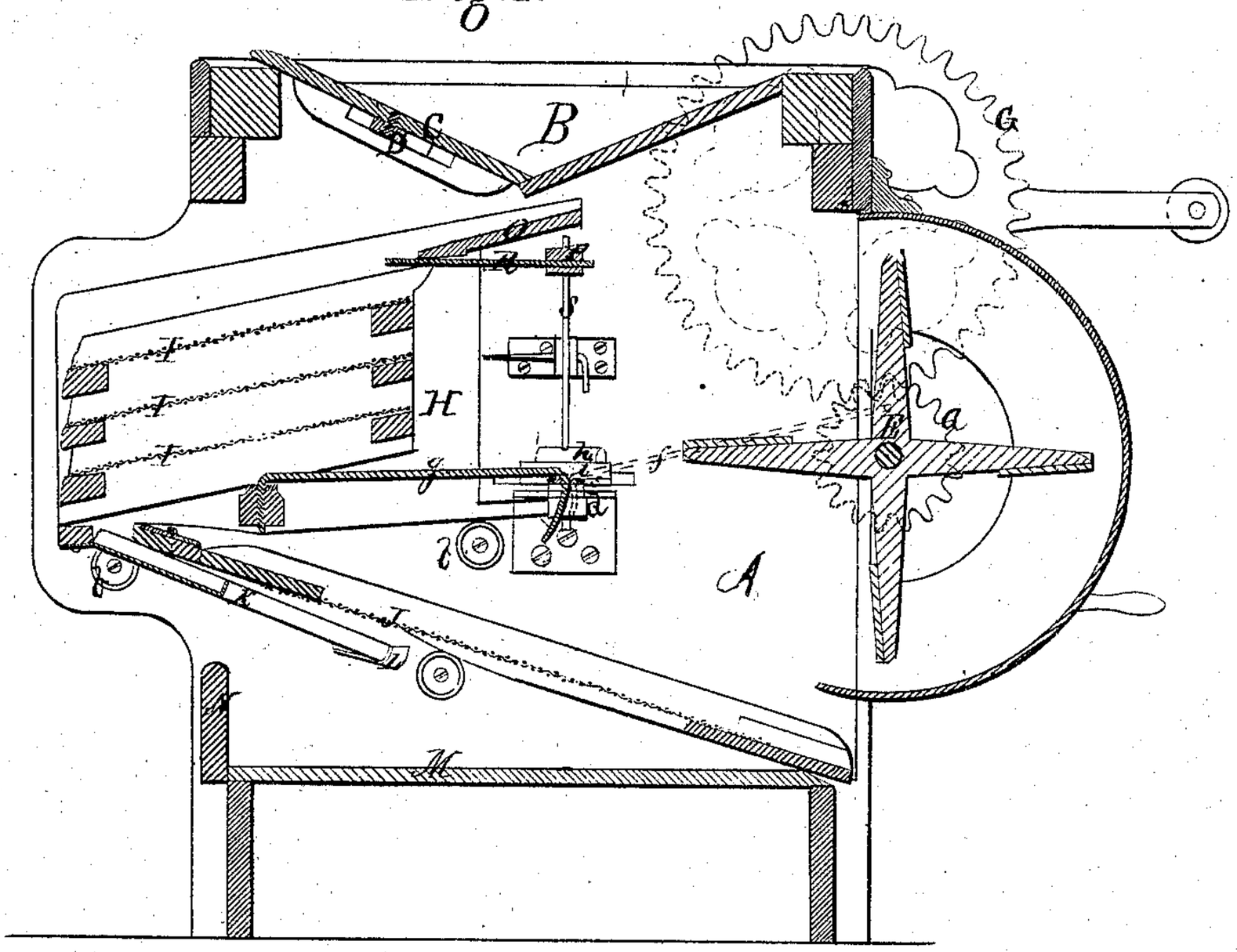
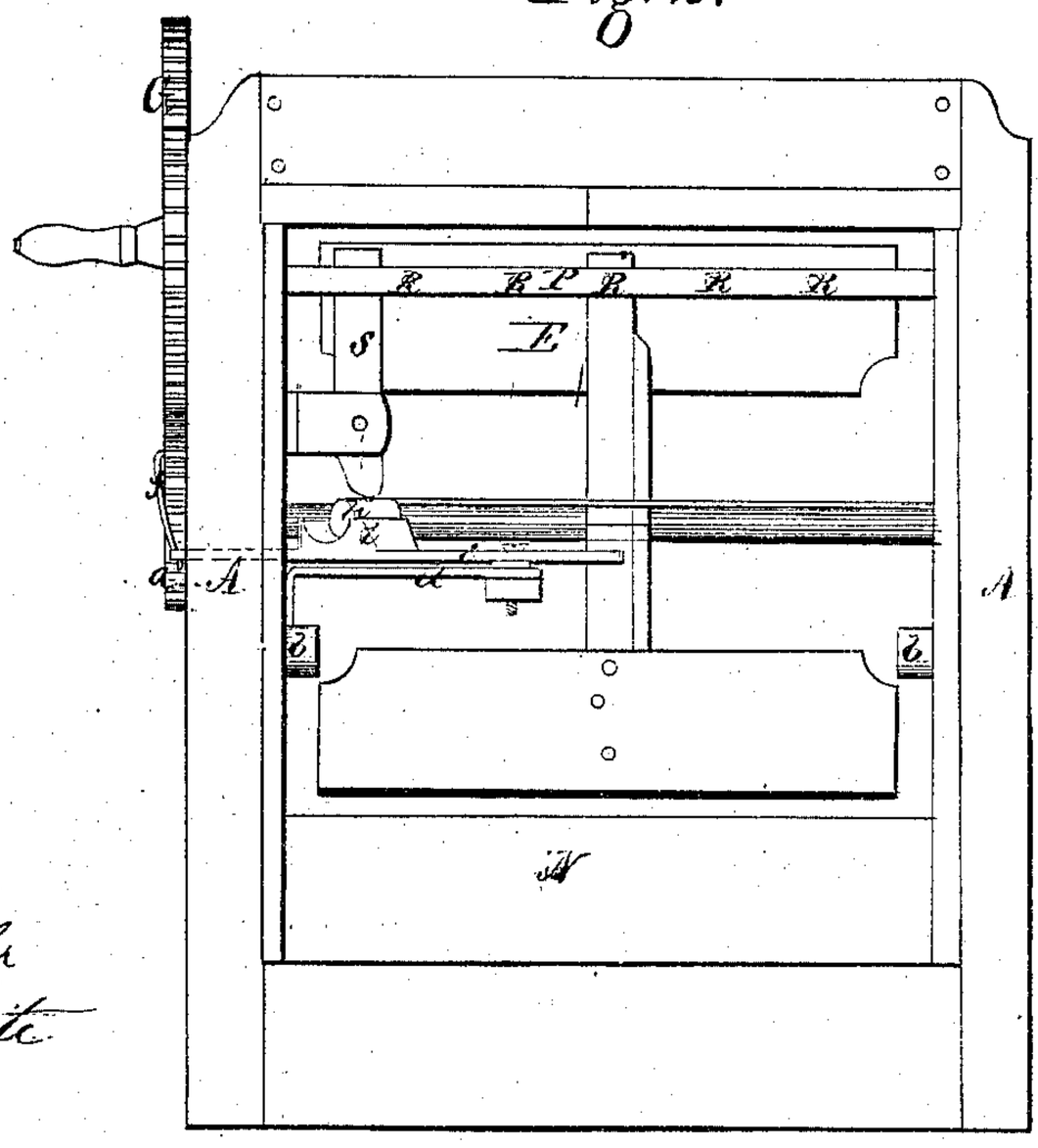


Fig. 2.



Witnesses
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HIRAM BURDICK, OF MONROE, WISCONSIN.

Letters Patent No. 99,835, *dated February* 15, 1870.

IMPROVEMENT IN GRAIN-SEPARATORS.

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, HIRAM BURDICK, of Monroe, in the county of Greene, and State of Wisconsin, have invented certain new and useful Improvements in Grain-Separators; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon which form a part of this specification.

The nature of my invention consists in the construction and general arrangement of a "grain-separator," but more especially in combining with a grain-separator a rake having a reciprocating motion from side to side, for the purpose of preventing the chaff and grain from falling in a body on the seives; and also in attaching the shake-rod to the centre of the shoe on the inside, whereby a true end-shake to the seives is obtained.

In order to enable others skilled in the art to which my invention appertains, to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a longitudinal vertical section, and

Figure 2, a rear elevation of my machine.

A represents the frame of the separator, in the upper part of which is the hopper B.

One side, C, of the hopper B is adjustable, moving in grooves in the sides of the frame, and is operated by means of a lever D, one end of which is pivoted in one side of the frame directly under the slide C.

The lever D is then pivoted to the underside of the slide about its center, and passes out through an inclined slot in the opposite side of the frame A, so that by moving said lever up or down, the slide C may be readily adjusted and the feeding of the grain regulated.

The fan E is constructed in any of the known and usual ways, and its shaft is at one end provided with a pinion, *a*, which gears with a large cogged crank-wheel, G, from which the fan thus receives its motion.

The shoe H for containing the sieves or screens rests upon four rollers *b b*, and receives its motion in the following manner:

From one side of the frame A a bar, *d*, projects horizontally into the machine, and on top of this bar is pivoted a lever, *e*, the outer end of which passes through an elongated slot in the side of the frame, and is by a rod, *f*, connected with the pinion *a* already mentioned. This connection being made in the form of a crank gives to the lever *e* the necessary back and forward motion.

The inner end of the lever *e* should extend to about the center of the machine, and is by a rod, *g*, connected with a cross-bar in the shoe H in its center, the rod *g* thus running parallel with the sides of the frame and equal distance from them. This insures a true end-shake of the sieves or screens, without the side motion almost invariably found in all grain-separators.

The upper screens I I are made in one gang, and adjusted at any inclination desired by being inserted in different grooves in the rear end of the shoe H.

The lower screen J is hinged at its rear end to a cross-bar near the rear end of the shoe.

Under the rear end of the shoe and attached to the same is an inclined triangularly-shaped board K, emptying through the spout L on the side of the machine.

Under the entire shoe is the bottom M, upon the front end of which the hinged seive J rests, and the opening at the rear end between said bottom and the board K is closed by a hinged or pivoted door N.

Under the hopper B and secured to the sides of the shoe H is an inclined board O, over which the grain has to pass before it falls down upon the sieves.

Under this board is placed a bar P, the ends of which rest and move in slots in the sides of the frame A.

To the bar P are secured rods or teeth R R, which project in rear of the board O.

The rake P R, thus constructed, obtains side-motion in the following manner:

To a projecting plate on the inside of the side of the frame A is pivoted an upright lever S, the upper end of which is pivoted to the bar P and the lower end inserted in a round bar, *h*, which rests in a grooved bar, *i*, placed obliquely upon the upper surface of the lever *e*, before mentioned.

It will readily be seen that as the lever *e* moves back and forth, the bearing *i* turns the bar *h* sufficient to give the lever S, and with it the rake P R, the desired reciprocating side motion.

A rake having a side motion is an indispensible part in a grain-separator for the purpose of chaffing all kinds of grain. It performs its work in keeping the chaff and grain from falling in a body on the sieves.

Having thus fully described my invention,

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

1. The horizontally-reciprocating rake P R in combination with lever S and sieves I I I, all arranged to operate substantially as and for the purpose described.

2. The combination of the lever *e*, oblique bearing *i*, bar *h*, lever S, and rake P R, all constructed and arranged to operate substantially in the manner and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

HIRAM BURDICK.

Witnesses:

S. W. ABBOTT,

JOHN H. PECK.