

J. A. KRAKE.
Grain Winnowing.

No. 13,849.

Patented Nov. 27, 1855.

Fig: 1.

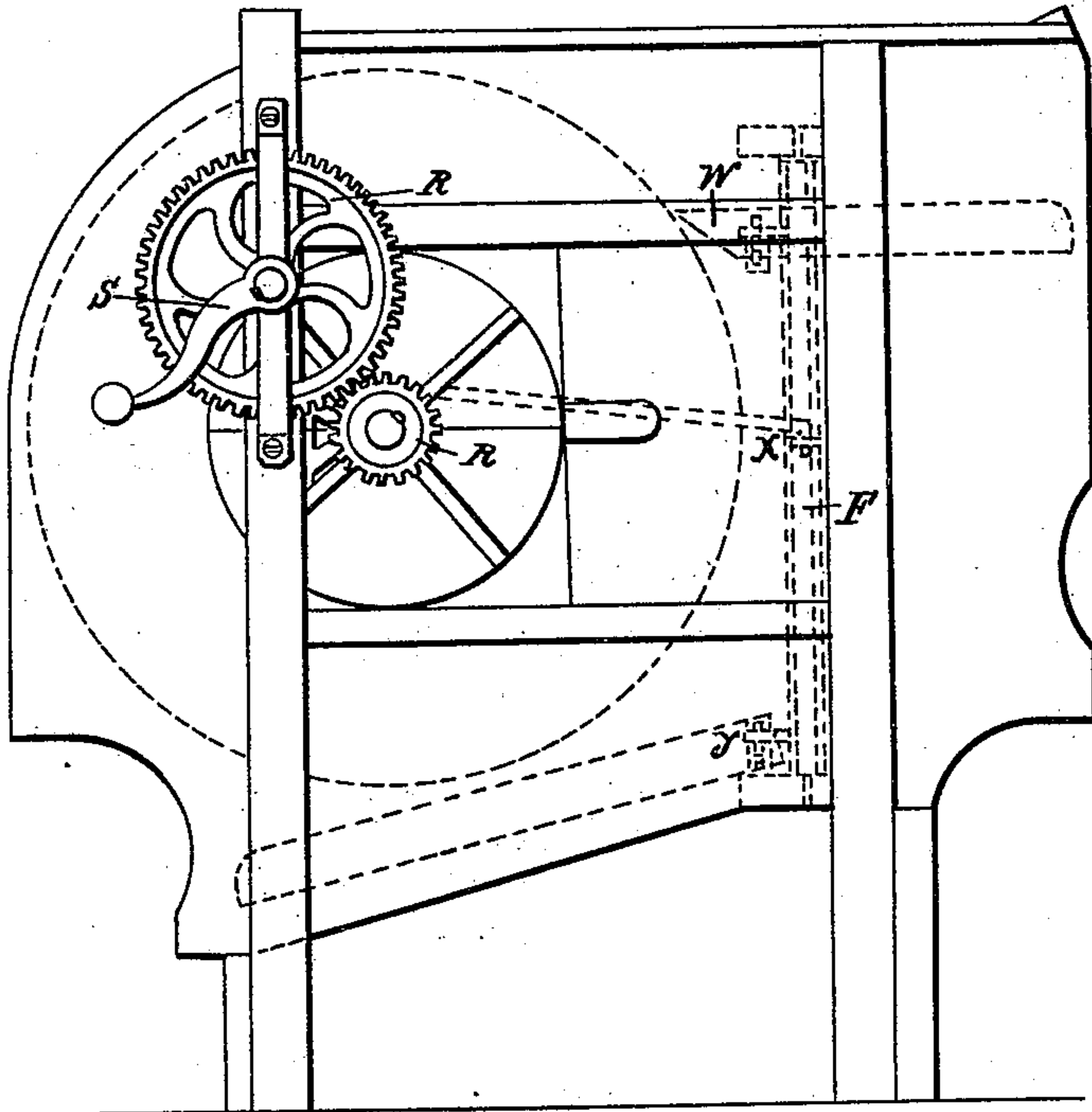
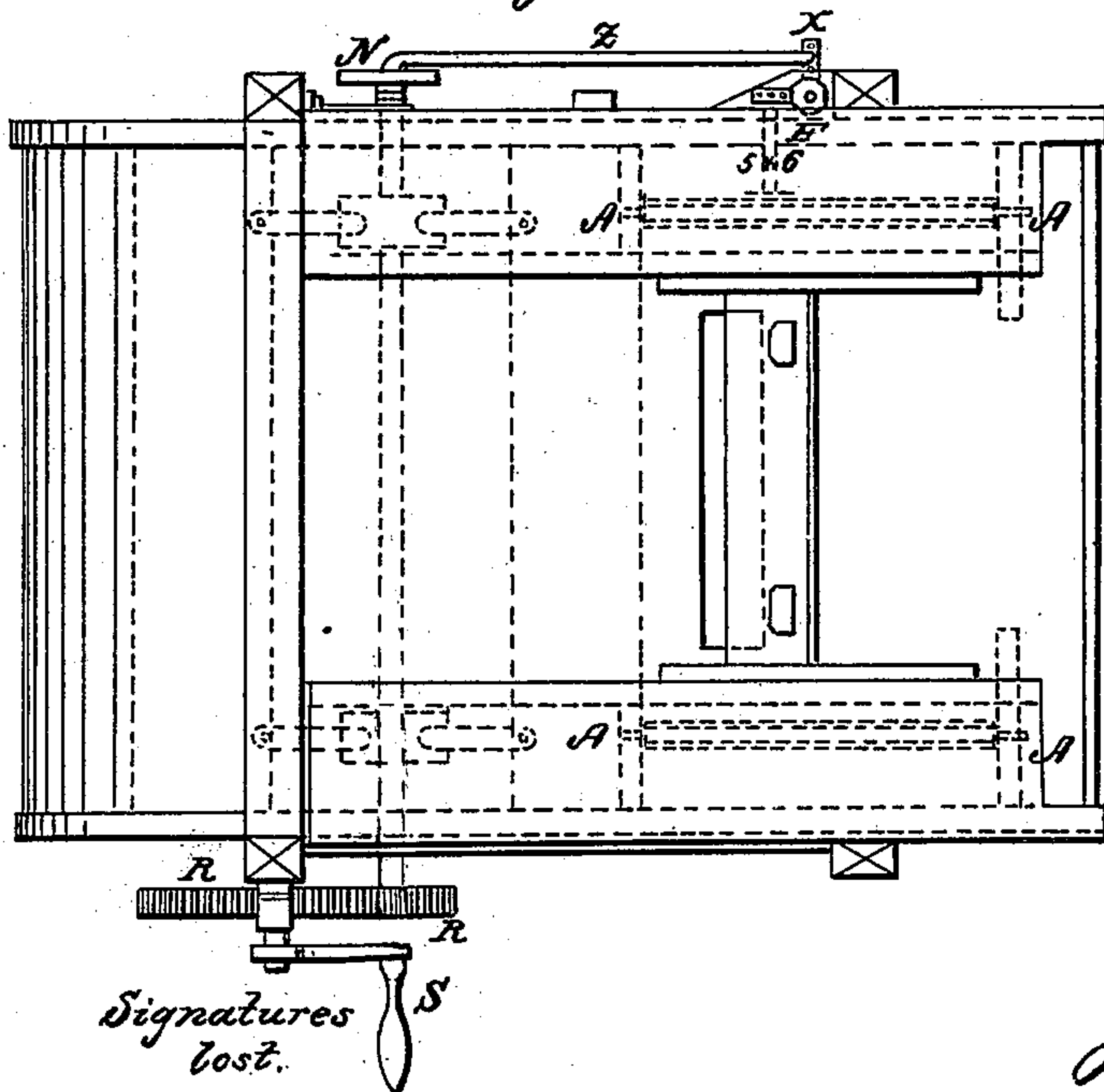


Fig: 2.



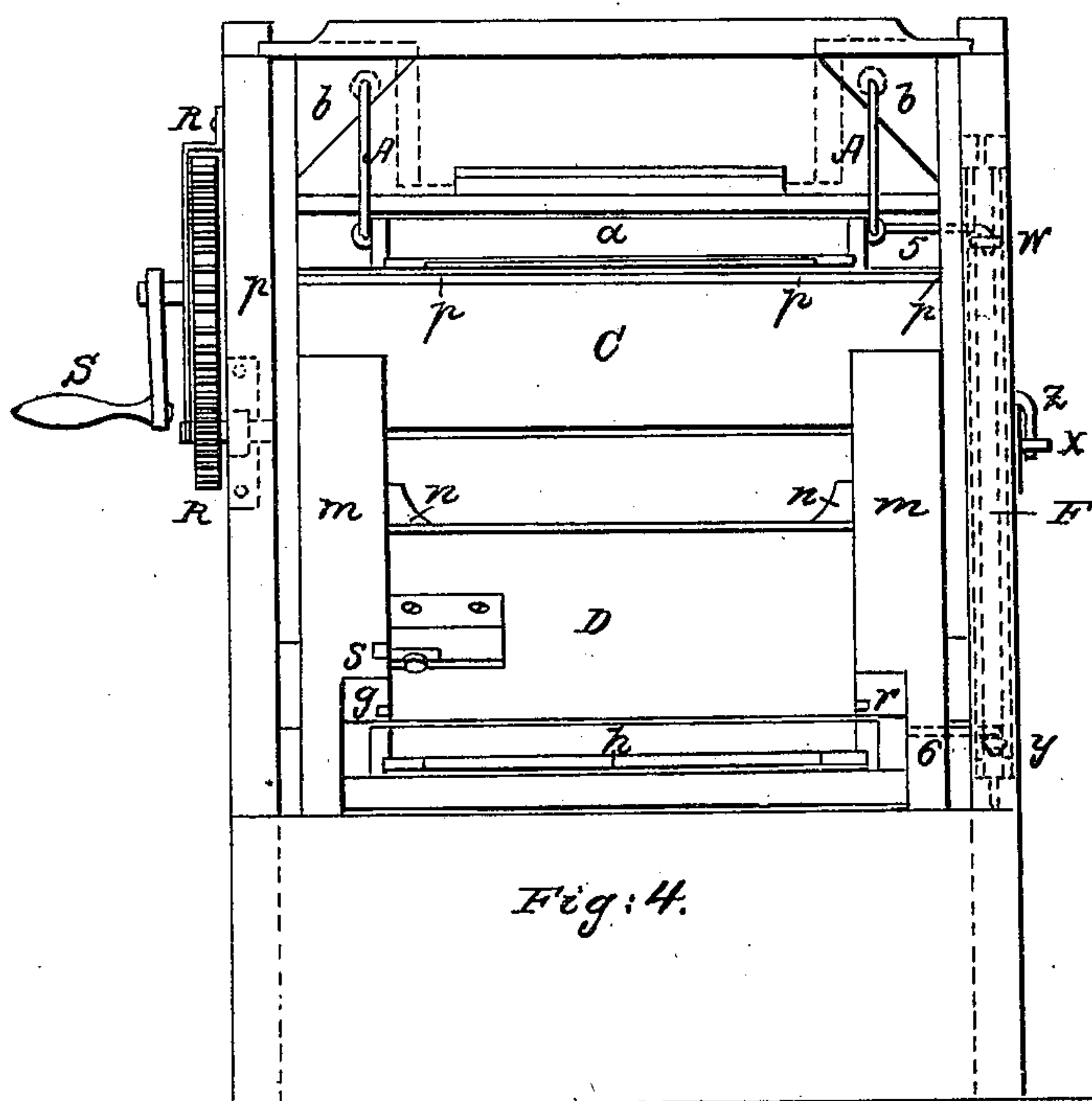
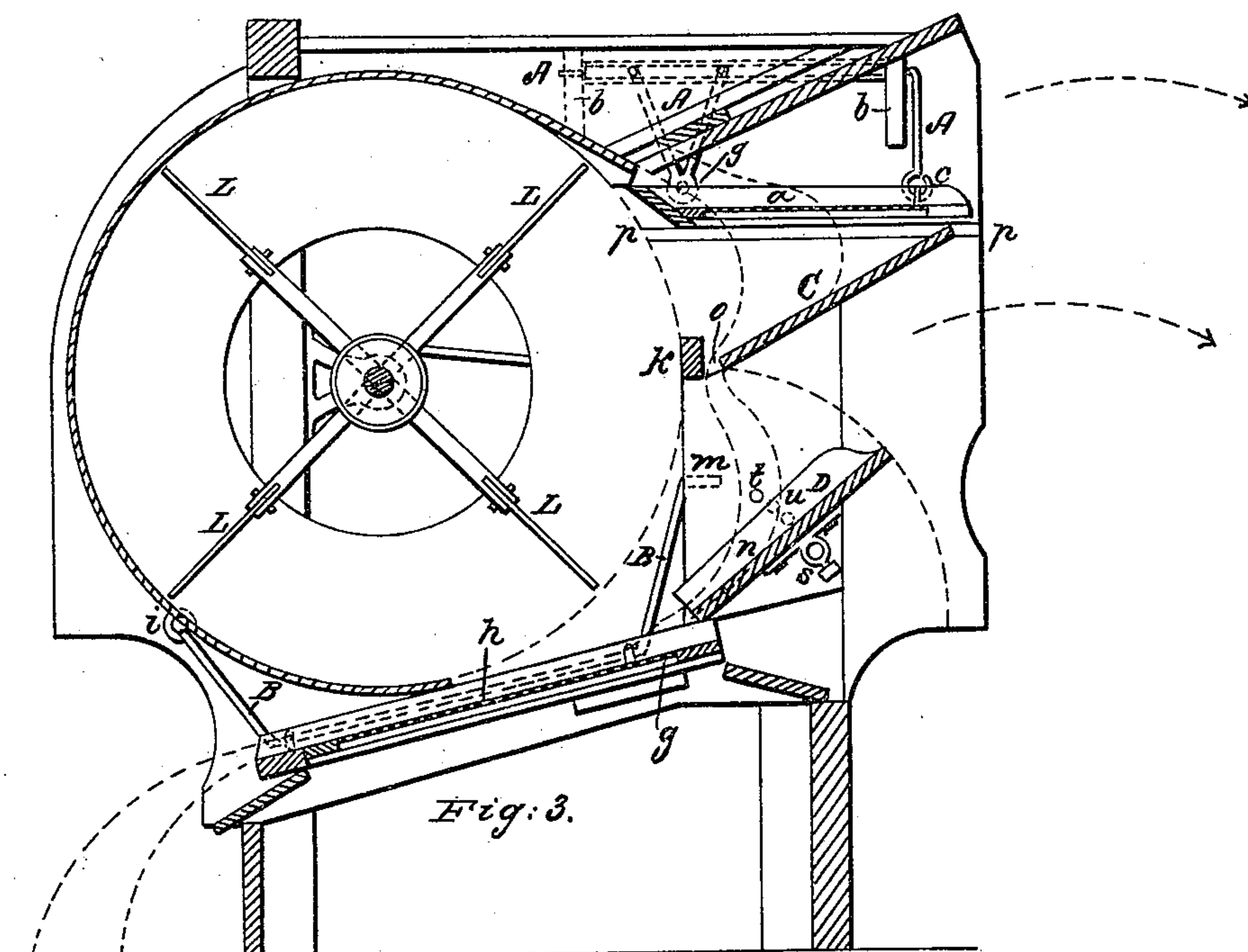
Inventor:
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2 Sheets—Sheet 2.

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Inventor,
J. A. KRAKE

UNITED STATES PATENT OFFICE.

JOHN A. KRAKE, OF ALDEN, NEW YORK.

MODE OF HANGING THE SCREENS OF WINNOWER-MACHINES.

Specification forming part of Letters Patent No. 13,849, dated November 27, 1855; Reissued October 4, 1864, No. 1,786.

To all whom it may concern:

Be it known that I, JOHN A. KRAKE, of the town of Alden, in the county of Erie and State of New York, have invented new and useful Improvements on Machines for Cleaning Grain, commonly called a "Fanning-Mill;" and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure (2) is a ground plan; Fig. (1), a longitudinal elevation; Fig. (3), a longitudinal section and Fig. (4) a front end view.

The construction and operation of my improvements I describe as follows: A short oscillating roller upon iron axles works horizontally and longitudinally in wood bearings (*b*), at the side, in the upper part of the machine. The axle at the front end extending through the bearing is bent down and terminated with a loop which is connected with the front end of the shoe (*a*) by a staple or hook (*c*). The other end of the roller is connected to the shoe (*a*) by means of a staple or hook (*d*) passing through a loop with extending and opening sides which being connected with the roller forms a triangle, the sides of which triangle acting as counter-braces prevents the shoe (*a*) from performing any other than a lateral vibration. The suspender (*A*) is placed in the sides of the machine directly above the sides of the shoe (*a*).

The lower shoe suspender (*B*) admits of a side to side motion and no other and formed as follows: A small iron rod passing through two eyes (*f* and *g*) in the side near each end of the lower shoe (*h*); the lower end of the rod being turned up and terminated with a loop is fastened to the drum in rear by means of a hook or staple (*i*) placed directly over the side of the shoe (*h*). The other end of the rod is turned up nearly at right-angles with the portion of the same rod passing through the eyes (*f* and *g*) and is terminated with a short pivot like crank which is inserted into the stanchion (*m*) on the inside of the machine for a bearing, directly in range with the coupling (*i*) on the end of the drum. There is a similar suspender on each side of the lower shoe (*h*) by which it is suspended

and being so suspended is capable of none but a lateral vibratory motion.

The upper front apron (*C*) is a plain apron extending transversely from side to side of the machine, its upper and front edge lying directly under and close to the front edge of the upper shoe (*a*), thence extending backward and downward with an angle of inclination of twenty or twenty-five degrees terminated with an elevated border (*k*) as near the fan (*L*) as may be and permit its revolutions. Between the border and the apron at the lower edge thereof is a longitudinal opening (*o*) extending along the whole lower edge except a short space at each end where the border is fastened to the apron. The spaces at the sides of the upper shoe (*a*) and the sides of the machine are closed with a thin casing (*p*) extending horizontally from the front edge of the apron (*C*) to a point directly above the rear edge of the same. The shoe (*a*) in its motions from side to side to work close to and above these casings thereby preventing the escape of the blast from the fan as it passes along the upper apron to and through the screen in the shoe (*a*) where light substances are separated from the grain. The grain then falls down the inclined surface of the apron (*C*) till it is turned through the longitudinal opening (*o*) by the elevated border (*k*) at the lower edge where it receives the full blast from the fan in a manner most favorable for separating it from all foul stuff, chaff, smut, cockle and the like. The apron (*C*) at each end rests upon stanchions (*m, m*) on the inside of the machine.

The lower front apron (*D*) is a plain apron with convergent check-pieces (*n, n*) and extends transversely across the lower front portion of the machine working upon pivots, one at each end (*q* and *r*) near the lower side inserted into slots in the same stanchions (*m, m*) which support the upper apron (*C*). The apron (*D*) extends upward and forward at an angle of elevation to suit the operator as that matter is regulated at pleasure by means of a sliding bolt (*s*), which has a series of sockets (*t, u, v*) in one of the stanchions (*m*). As the grain falls from the upper apron (*C*) upon the inclined surface of the lower apron (*D*) the lighter portions will always be car-

ried higher up and nearer the front edge thereof by the blast and finally blown out completely. By means of the check-pieces (n, n) on each side of the apron (D) and the stanchions (m, m) a contraction is caused in the blast as it springs from the ends of the fan, thereby making it equal in power upon all parts of the inclined surface of the apron (D) which is a useful effect. The combined effect of the aprons (C and D) is to place the full power of the blast more completely under the control of the operator.

The three elbows (w, x, y) are perforated with three holes each. The middle elbow (x) is connected by a long hook (z) to a circular crank (N) on the end of the fan axle which is set in motion by means of the ordinary wheel and crank (R and S). This motion is imparted by the upright shaft (F) to the other two perforated elbows (w and y) which are connected by coupling hooks

to the upper and lower shoes (a and h) which are thereby caused to vibrate. The number of vibrations of each of the shoes (a and h) will always correspond but the length of the vibrations of each will be varied according as the coupling-hooks (5 and 6) leading to them are placed in the middle outer or inner perforations of the elbows (w and y) and the corresponding perforations in the couplings situated in the sides of the two shoes (a and h).

What I claim as my invention and desire to secure by Letters Patent is—

The peculiar arrangement and combination of parts herein described by which the action of the screens is confined exclusively to lateral vibratory motion for the purpose specified.

J. A. KRAKE.

Witnesses:

BYRON M. HANKS,
CHRISTIAN FISCHER.

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