

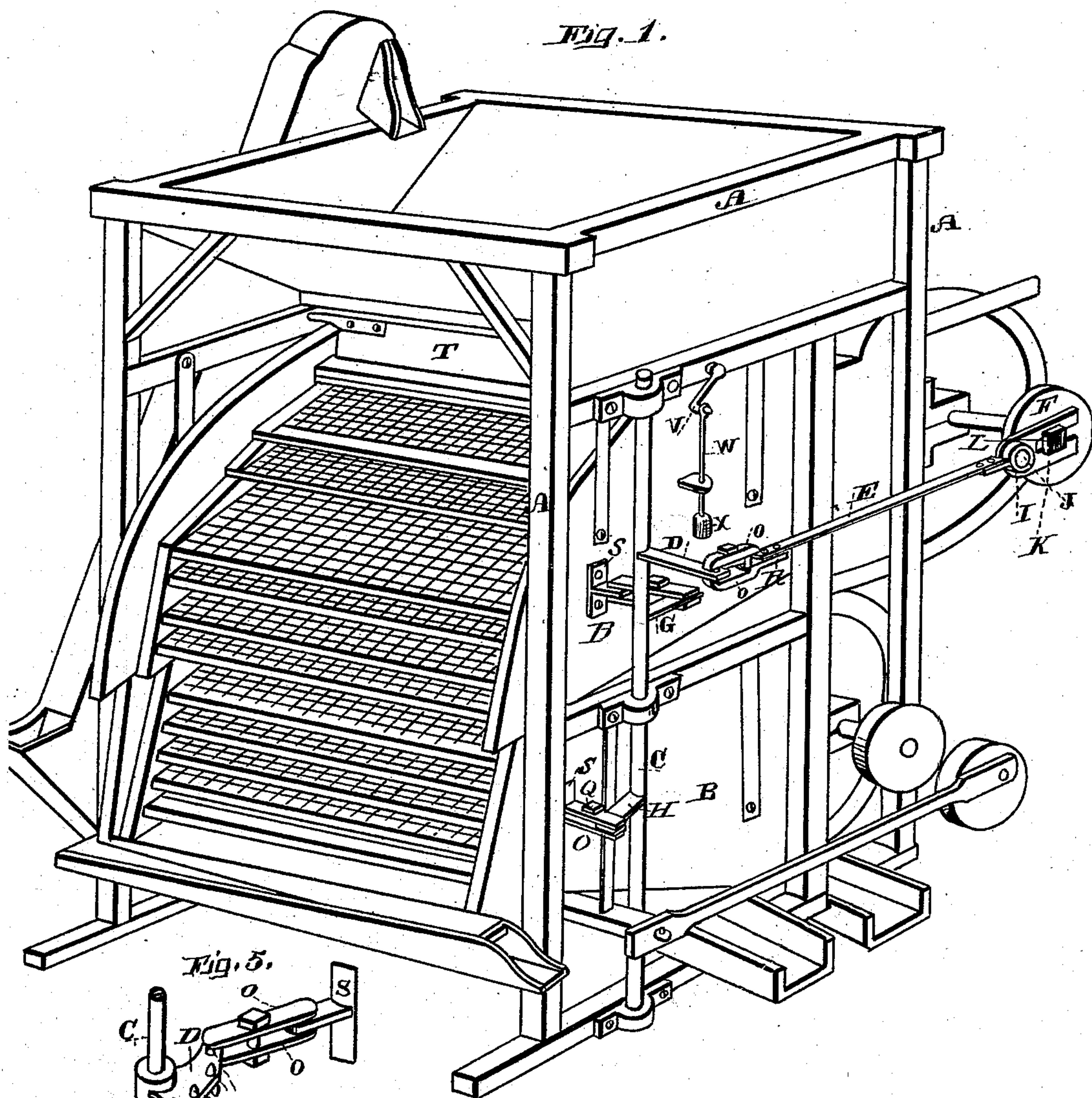
(No Model.)

D. BEST.

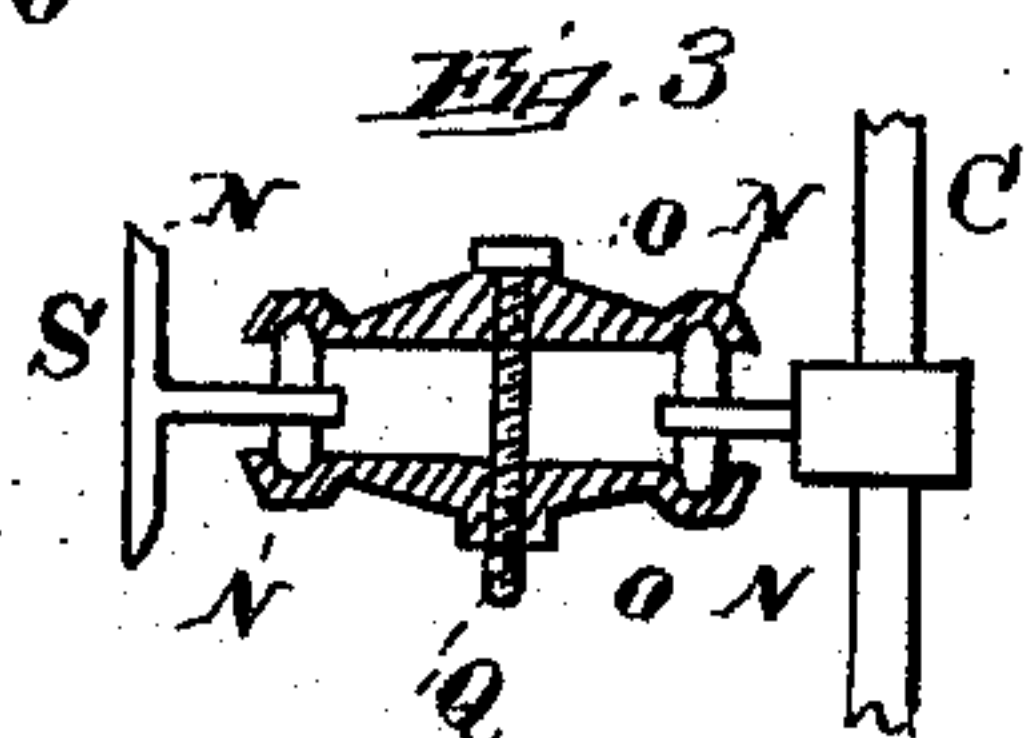
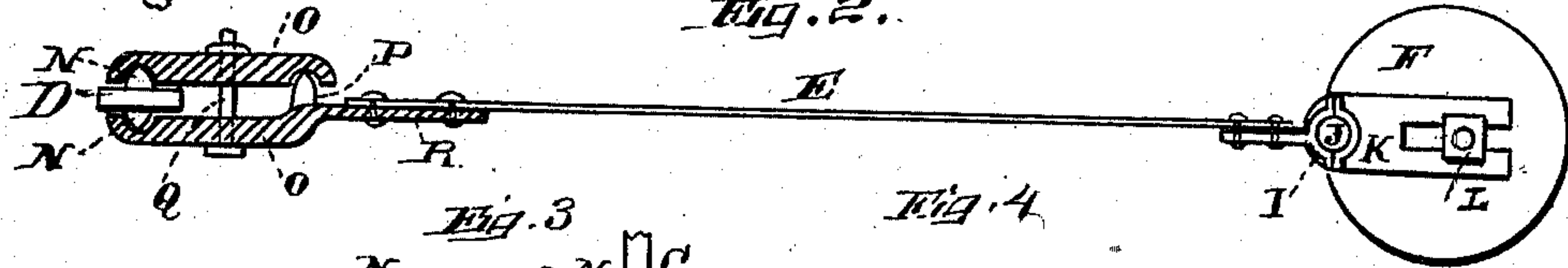
## GRAIN SEPARATOR.

No. 270,001.

Patented Jan. 2, 1883.



*Fig. 2.*



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# UNITED STATES PATENT OFFICE.

DANIEL BEST, OF ALBANY, OREGON.

## GRAIN-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 270,001, dated January 2, 1883.

Application filed September 13, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL BEST, of Albany, county of Linn, State of Oregon, have invented an Improved Grain-Separator; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to certain improvements in grain-separators; and it consists in mechanism by which the amount of shake given the shoes is regulated and the joints always kept tight and prevented from rattling, all of which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a perspective view. Figs. 2, 3, 4, and 5 are details of construction.

A is a separator frame or body, having the suspended riddle-carrying shoes B and fans for producing an air-blast, with driving mechanism. In the present case I have shown the separator as an independent machine, similar in construction to those patented to me April 25, 1871, and September, 1882; but it may also be used in conjunction with a thrashing-machine, and receive the grain to be cleaned directly from the chaffing-sieves of the thrashers. The riddle-carrying shoes have a side shaking movement given them simultaneously in opposite directions by means of a vertical shaft, C, which is caused to oscillate in its boxes by an arm, D, and a connecting-rod, E, from the crank or eccentric wheel F. Arms G and H project from opposite sides of this vertical shaft, and are connected with the shoes, so as to cause them to oscillate as the shaft makes its partial rotations.

My invention relates to the connections between these arms G and H and the shoes, and also to that between the arm D and the driving-wheel F. The connecting-rod E, by which motion is communicated from the crank-wheel F, is made of flat steel, and is elastic and has one end bolted to the strap I, which clasps the crank-pin J. This pin projects from one side and near one end of a slotted plate, K. A screw-bolt having a large head, L, passes through the slot in the plate and into a screw-hole, M, in the side of the crank-wheel, so that by loosening the screw the plate K may be moved so as to bring the pin J nearer to or

farther from the center of the wheel F, and thus change the throw of the crank and the resulting movement of the shaft.

In order to connect the elastic rod E with the arm D of the vertical shaft C, the end of the arm has two cone-shaped projections or pivots, N, and two plates, O, have corresponding recesses made in them, into which the projections fit. The lower plate O has a projection, P, at the opposite end, which enters a corresponding recess or indentation in the upper plate, and through the center of the plate a screw-bolt, Q, passes to draw the plates toward each other. This causes the conical pivots N to fit closely and prevents all jar or rattle, providing also a ready means for connecting or disconnecting the crank-arm and for tightening the joint whenever necessary. The end of the elastic connecting-rod E is riveted to an extension, R, of the lower plate O, and thus avoids a joint at this point, as the rod has elasticity enough to allow the crank to move without disturbing this fixed connection. The end of each of the arms G and H have conical pivots N, and the plates S, which are secured to the sides of the shoes, have also a horizontal projection with similar pivots.

In some cases, where it is desired to alter the throw of an arm D, it may be made, as shown in Fig. 5, with two or more sets of pivots N, fixed at different distances from the central shaft, and the plates O may have one end transferred to either, as desired.

T is the gate which regulates the discharge of the grain upon the upper riddles. It is mounted upon a shaft which extends through the side of the machine, and has a crank, V, upon the end. A rod, W, extends downward from this arm, and may have a weight, X, suspended from its lower end, so as to be within reach; or the weight might be suspended directly from the arm V, if preferred. Whenever the flow of grain is heavy it forces the gate open, and thus lifts the arm V and weight; but if the supply is small the gate closes by the action of the weight, so as to allow but a small body of grain to pass. This keeps some grain passing all the time, instead of allowing the riddles to become entirely empty when the



supply fails, and the partially-closed gate serves to distribute equally over the riddles whatever grain there is passing.

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

1. In a grain-separator, the combination of the shaft connected to the vibrating shoes, and having the arm D, the adjustable connection between such arm and the rod E, the driving-wheel F, the slotted plate K and its adjusting-bolt, and the wrist-pin J, the parts being constructed and arranged to operate substantially as described.

2. Combined with the driving wheel or disk F and the pitman or connecting-rod E, the vertical shaft C, having the crank-arm D, pro-

vided with pivots N N, the adjustable connection between said crank and the pitman E, consisting of plates O O, having indentations, and the screw-bolt Q, all substantially as described.

3. In a grain-separator, the adjustable connection consisting of a vertical shaft, C, having the arms G and H, the plates S, having the double conical pivots N, the plates O, having indentations, and the holding-screws Q, all substantially as described, and for the purpose set forth.

In witness whereof I have hereunto set my hand.

DANIEL BEST.

Witnesses:

S. H. NOURSE,

G. W. EMERSON.