

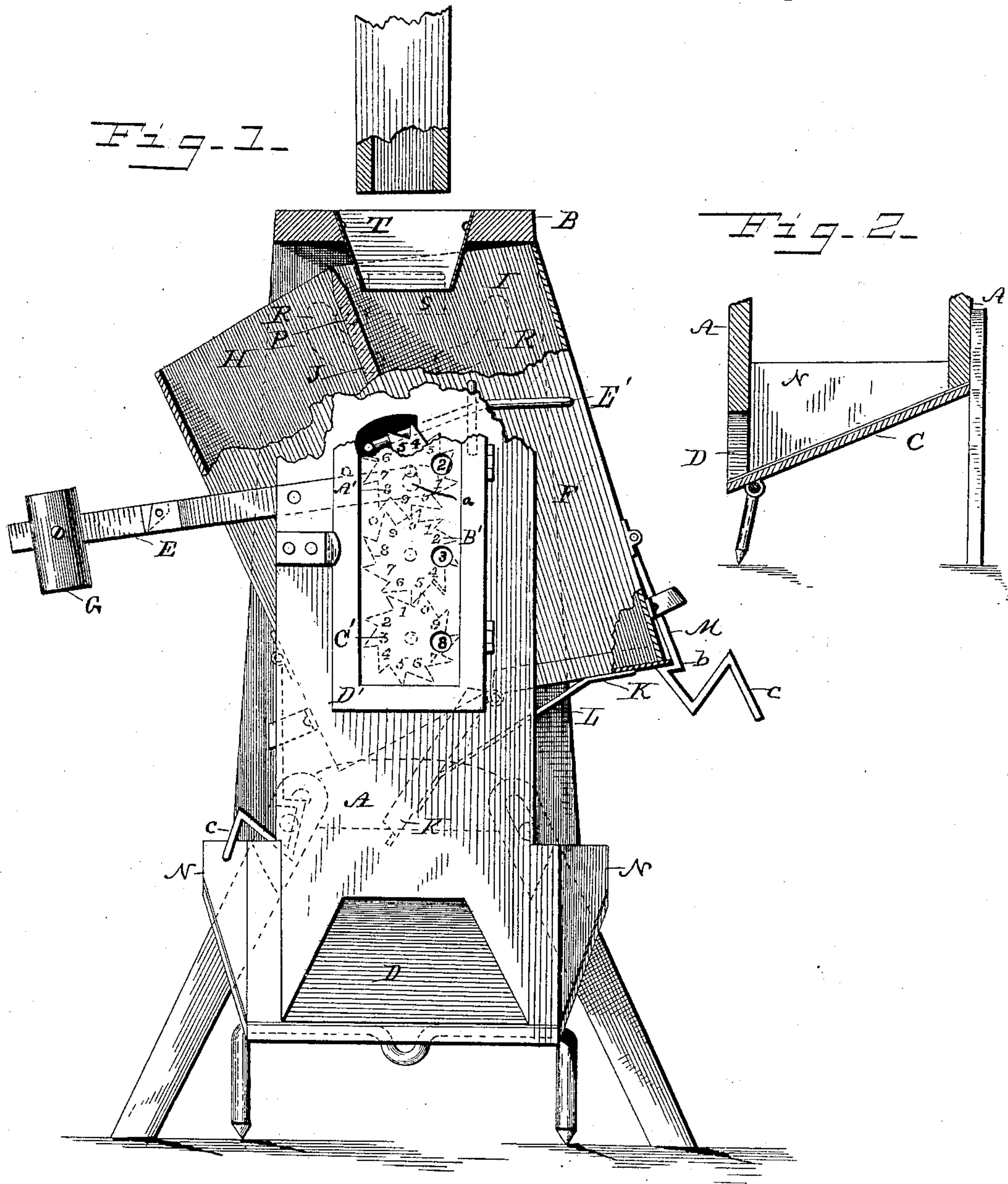
(Model.)

J. BORAH.

AUTOMATIC GRAIN MEASURE FOR THRASHING MACHINES.

No. 325,046.

Patented Aug. 25, 1885.



WITNESSES

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AUTOMATIC GRAIN-MEASURE FOR THRASHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 325,046, dated August 25, 1885.

Application filed August 5, 1884. (Mod. 1.)

To all whom it may concern:

Be it known that I, JAMES BORAH, a citizen of the United States, residing at Altoona, in the county of Beadle and Territory of Dakota, have invented certain new and useful Improvements in Grain Weighing and Registering Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in devices for weighing and registering grain and other like materials.

The object of my invention is to provide a device which can be attached to the delivery-spout of a thrashing-machine or other similar place to receive the grain, and weigh and register it while the same is in transit to the sacks or bin.

My invention therefore consists in certain details of construction and combinations of parts, which will be fully described hereinafter, and pointed out in the claims.

Figure 1 is a side elevation, partly in section, of my improved device. Fig. 2 is a sectional view of the lower portion.

A A are the sides or frame of the device, the upper ends of which are joined together by the cross-piece B, while the lower ends are joined by the cross-piece or bottom C, said bottom being inclined, as shown in Fig. 2, in order that the grain may pass out through the opening D in the side of the machine, where it is discharged into sacks or other suitable receptacles. Two sides of the frame are left open in order that the weighing-hopper may be readily tilted or rocked from one side to the other to discharge the load of grain, as will more fully hereinafter appear.

E is the scale-beam, the rear end of which is bifurcated, so as to pass around on each side of the hopper F, said scale-beam being pivoted at *a* in the sides of the machine, and adapted to sustain the hopper on the rear ends of the bifurcated arms.

The scale-beam is provided with the usual index and a weight, G, which is operated in the usual manner.

The hopper F is divided into two compartments, H I, by the partition or division-board J, said hopper being supported as already described.

The lower ends of the hoppers are provided

with doors K, said doors being hinged at their inner sides to the partition J and connected together by means of the bar L, so that when one door is forced open by the weight of the grain, and after it has been released from the gravity-catch, the other door will be forced up and locked in a closed position by the gravity-catch M. The gravity-catches M are formed with an offset, *b*, which engages with the under side of the doors or valves K, and with a prolonged bent portion, *c*, which, when the hopper is tilted by the weight of the grain, comes in contact with the sides or portions N of the frame and are forced back. This releases the doors or valves and permits the grain to escape from the hopper onto the inclined floor C, and thence through the opening D in the side of the frame.

One side of the hopper is provided with a friction-wheel, P, designed to travel in ways between the guides R and S.

T is a spout secured in an opening in the cross-piece B, said spout being long enough to project a short distance into the hopper when the scale-beam is down and the hopper is raised. As soon, however, as one of the hoppers is filled or the desired amount of grain deposited therein, the scale-beam will rise and the hopper will be lowered, so the partition will pass under the spout T, it being understood that the amount of grain deposited in the hopper is regulated by the weight on the scale-beam.

When the weight of grain in the hopper overbalances the weight on the scale-beam, the roller P will ride down on the guide R, and as soon as the hopper has reached a point low enough to allow it to pass under the spout T the hopper will be tilted over to bring the empty chamber of the hopper under the spout. As the hopper is tilted, the gravity-catch is brought into contact with the portion N, which releases the door and permits the grain to escape, the other door or valve being closed by the opening of the other door or valve. As soon as the grain begins to escape from the hopper, said hopper will be raised and brought up closely against the under side of the cross-piece B, so that no grain is wasted during the movement of the hopper.

A' B' C' are registering-wheels, indicating units, tens, and hundreds, respectively, which

are journaled in the side of the machine and covered by a glass door, D'. These registering wheels or disks are of the usual construction, and are operated by means of the rod E', one end of which is secured in the side of the hopper, while the other end of said rod is bent to engage with the teeth of the registering-wheel A' when the hopper is thrown into the position shown in Fig. 1; but when the hopper is tilted over into the other position the rod will move the registering wheel one notch. On the completion of one full revolution of the wheel A' the wheel B' is moved one notch to indicate tens, and when the wheel B' has made one revolution it will move the wheel C' one notch, thus indicating hundreds.

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

1. In a grain measuring and registering machine, the double hopper pivoted on the rear

end of the scale-beam and provided with the friction-roller P, in combination with the guides R and spout T, whereby the loaded hopper is permitted to descend a short distance to clear the spout before emptying its load, and be returned again under the spout when freed or partially freed of the weight of the grain, as set forth.

2. In a grain weighing and measuring machine, the combination of the double tilting or rocking hopper F, pivoted as described, having the doors or valves connected together by the bar L, as described, with the gravity-catches M and projection N, said projections being formed by the upper edge of the receiving-hopper and adapted to release the gravity-catches, as set forth.

JAMES BORAH.

In presence of—

WM. CORL,
N. P. OLSON.