R. H. EDMISTON.

Grain-Meters.

No. 214,635. Patented April 22, 1879.

Fig: 1.

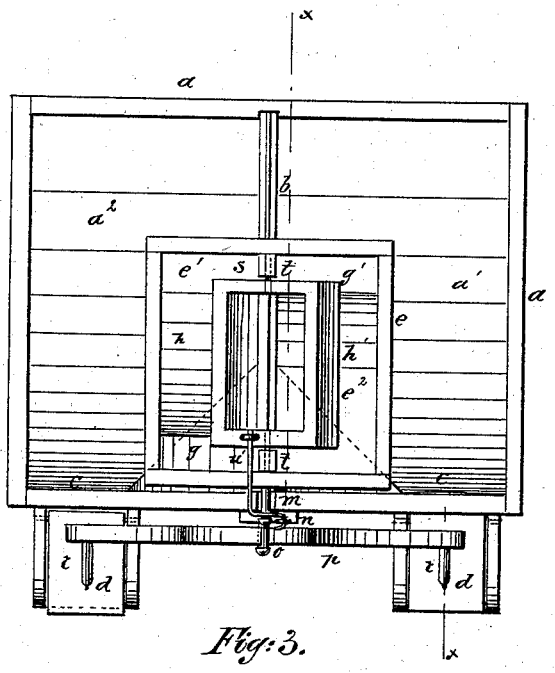


Fig: 2.

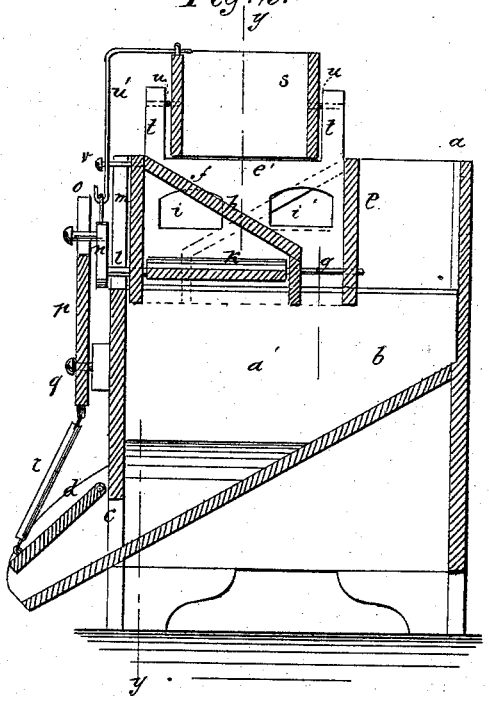


Fig: 3.

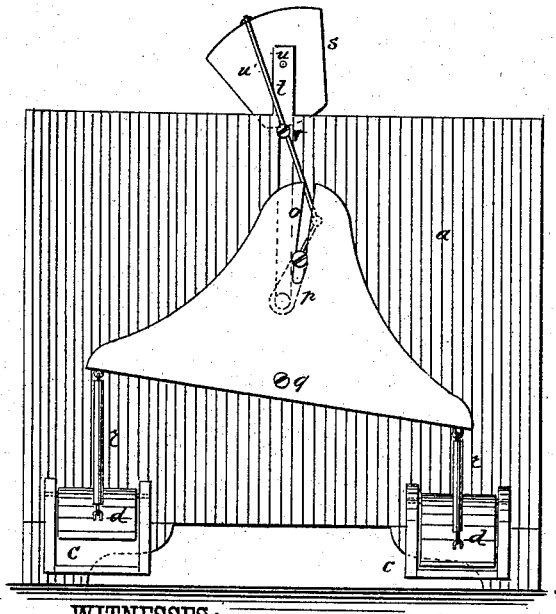
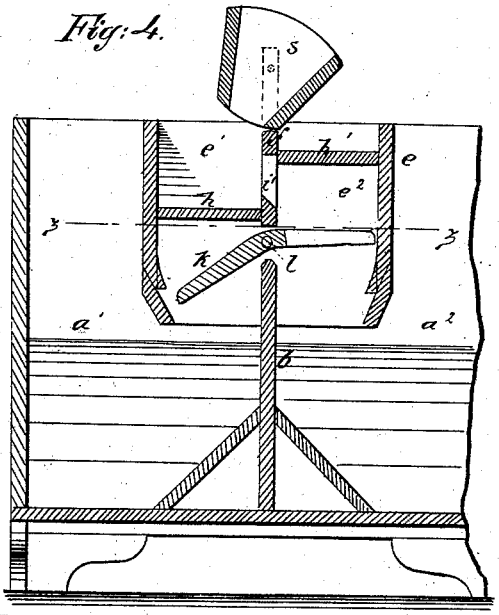


Fig: 4.

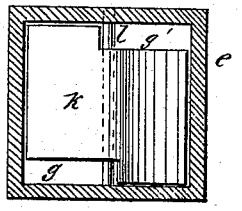


WITNESSES:

Chas. Nida.

C. Sedgwick

Fig: 5.



INVENTOR:

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UNITED STATES PATENT OFFICE

ROBERT H. EDMISTON, OF LOVELAND, COLORADO.

IMPROVEMENT IN GRAIN-METERS.

Specification forming part of Letters Patent No. **214,635**, dated April 22, 1879; application filed September 30, 1878.

To all whom it may concern:

Be it known that I, ROBERT H. EDMISTON, of Loveland, in the county of Larimer and State of Colorado, have invented a new and Improved Grain-Meter, of which the following is a specification.

My invention relates to an apparatus for automatically measuring and discharging grain that is run through the apparatus from any source of supply, and is particularly intended for use in connection with thrashing-machines, to measure the grain as it is delivered from the thrasher.

My invention consists in a bin or hopper divided by a central partition into two compartments, each of which is provided with a delivery-opening and swinging gate to close the same. Combined with the bin is an inner hopper, opening into both compartments, and having an oscillating gate, that is operated by the overplus of grain when one bin is full, to turn the feed-spout and cause the grain to run into the empty bin, and at the same time the delivery-opening of the empty bin is closed and that of the full bin opened.

In the accompanying drawings, Figure 1 is a plan of my apparatus. Fig. 2 is a vertical section on the line *x x* of Fig. 1. Fig. 3 is a front elevation. Fig. 4 is a vertical section on line *y y* of Fig. 2, and Fig. 5 is a sectional plan of the hopper on the line *z z* of Fig. 4.

Similar letters of reference indicate corresponding parts.

a represents a bin of rectangular shape, that is to be placed in a convenient position for receiving and delivering the grain. It is divided by a central cross-partition, *b*, into two compartments, a^1 a^2, of equal size. The bottom of each compartment a^1 a^2 is inclined or hopper-shaped, to cause the grain to run out of the delivery-openings *c c*, of which there is one to each compartment a^1 a^2. Each delivery-opening is furnished with a swinging gate, *d*.

e is an inner box or hopper, fitted removably upon the upper edge of the partition *b*, and divided by a partition, *f*, into compartments e^1 e^2, which communicate, respectively, by the openings *g g'* with the compartment a^1 a^2. *h h'* are inclined boards in the spaces e^1 e^2, from the edge of the openings *g g'* to the upper edge of the hopper *e*, the said boards *h h'* being inclined in opposite directions. *i'* is an opening in the partition *f*, beneath the board *h*, and *i* is a second opening in *f*, beneath the board *h'*.

k is a gate, fitted upon central pivots, *l*, in the bottom part of hopper *e*, so as to oscillate in the space beneath the inclined boards *h*. The axis or pivot *l* of the gate *k* extends through the side of the hopper *e*, and through a slot, *m*, in the side of bin *a*, and carries a crank-arm, *n*, the crank-pin of which is within a slot, *o*, of one arm of the three-armed lever *p*. This lever *p* is fulcrumed on the side of bin *a* at *q*, and its other two arms are connected, respectively, by the links *r r* with the gates *d* of the delivery-openings *c c*.

The feed-spout *s* is hung above the hopper *e* in standards *t* by pivots *u u*, so that the spout *s* may oscillate from side to side and deliver the grain into either of the compartments e^1 e^2. *w'* is a lever fulcrumed at *v* on the side of hopper *e*, one end of which lever is connected to the spout *s*, and the other end connects with the crank-arm *n* on the axis of gate *k*. The connections described cause the spout *s*, gate *k*, and gates *d* to move together and in unison, so that they operate as next described.

The spout *s* being in position to feed the grain to the compartment e^1 of the hopper *e*, it runs freely, by the opening *g*, to the compartment a^1 of bin *a*, where it is retained, as the gate *d* of that part is closed. As soon as the bin a^1 is full up to the bottom of hopper *e*, the grain will fill the opening *g*, and pile up on the board *h* until it runs through the opening *i'* and falls upon the highest end of gate *k*, where the grain accumulates until there is sufficient weight to bear down that end of gate *k* and elevate the opposite end. The grain that has collected upon the gate *k* can then run into the bin a^2, and the motion of the gate *k* acts, by the connections described, to shift the spout *s* so that it shall discharge into the hopper e^2, and also opens gate *d* of bin a^1 and closes gate *d* of bin a^2. This action will be repeated as often as the bins a^1 a^2 are filled.

The hopper *e* is retained in place by the partition *b*, which enters slots in the sides of *e;* and if it is desired to make the bins a^1 a^2 of greater capacity, additional boards may be placed on the upper edge of partition *b*, and

the hopper *e* then secured to the boards. By that means a larger quantity of grain will be measured at each filling.

The capacity of the bins being known, the total quantity of grain passing through the machine can be ascertained by keeping an account of the discharges.

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

1. The combination of the hopper *e*, having the two compartments e^1 e^2, and provided with the gate *k*, oscillating upon a central pivot, *l*, in the space beneath the inclined boards *h* of the said compartments, with the two compartments a^1 a^2 of the bin *a*, substantially as and for the purpose described.

2. The combination of the feed-spout *s*, hopper *e*, bin *a*, gate *k*, levers *p* and *w'*, and gates *d*, arranged and operating substantially as and for the purposes described.

3. The hopper *e*, having a central partition, *f*, inclined boards *h h'*, openings *i i'* and *g g'*, and gate *k*, and fitted upon the central partition, *b*, of the bin *a*, substantially as and for the purposes set forth.

ROBERT H. EDMISTON.

Witnesses:
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W. A. SKILES.