

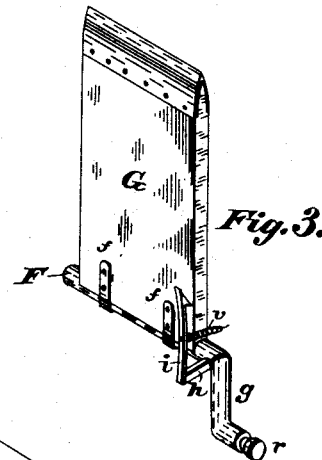
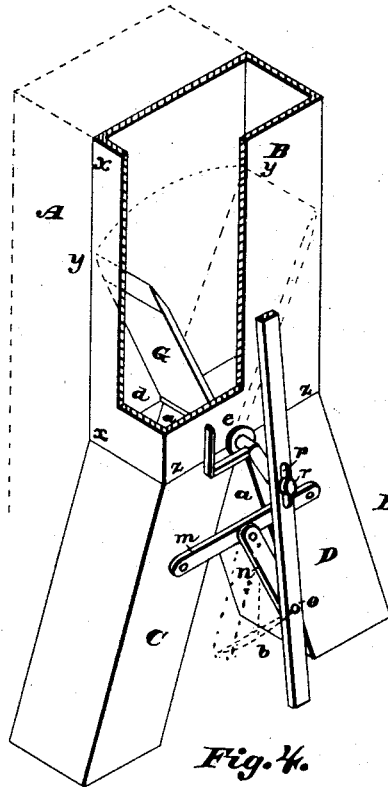
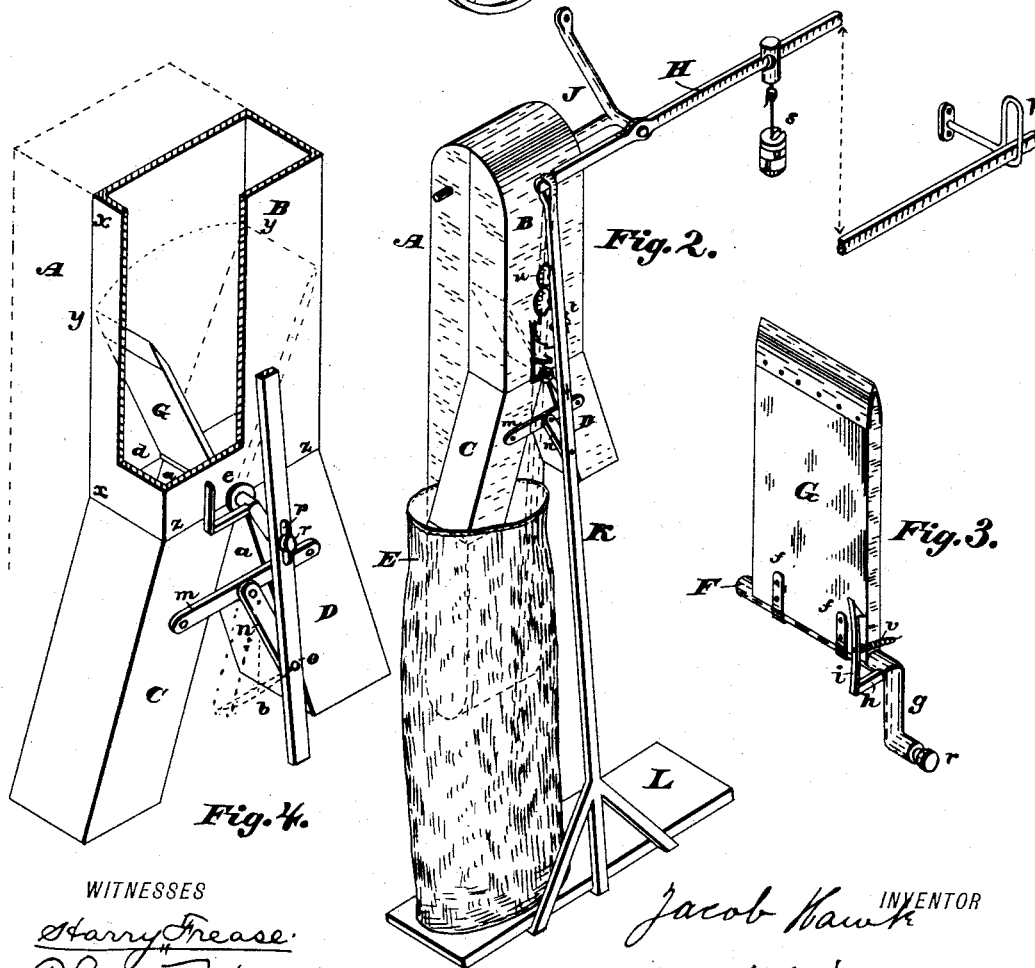
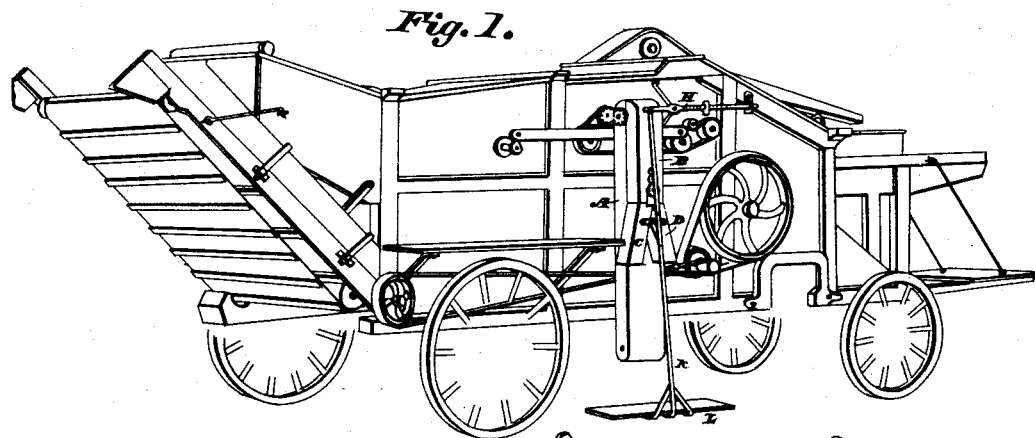
(No Model.)

J. HAWK.

GRAIN WEIGHER AND REGISTER.

No. 342,600.

Patented May 25, 1886.



WITNESSES

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UNITED STATES PATENT OFFICE.

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GRAIN WEIGHER AND REGISTER.

SPECIFICATION forming part of Letters Patent No. 342,600, dated May 25, 1886.

Application filed February 5, 1886. Serial No. 190,924. (No model.)

To all whom it may concern:

Be it known that I, JACOB HAWK, a citizen of the United States, and a resident of Canton, county of Stark, and State of Ohio, have invented a new and useful Improvement in Grain Meters and Tallies, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to improvements in automatic grain meters and tallies; and it consists in providing means by which thrashed grain may be weighed or measured and tallied.

My invention also relates to the detail and combination of parts, as described, and set forth in the claims.

Similar letters of reference indicate corresponding parts in all the figures of the drawings hereunto attached.

Figure 1 is a view showing the meter as used in connection with a thrashing-machine. Fig. 2 is a view in isometric of meter detached. Fig. 3 is an isometrical view of vibrating valve and rock-shaft with crank and register-actuating pawl. Fig. 4 is a view in isometric showing interior of the hopper, location of vibrating valve, and enlarged view of parts.

Letter A represents an elevator-trunk which incloses the elevator, which may be of any ordinary kind, with strap and bucket operated by rollers at the bottom and top of the trunk, but not shown in the drawings. Grain may be raised and thrown into the hopper B or be conveyed to the hopper through a spout. The hopper B is preferably made of wood, the upper section, from *x* to *x*, twenty-four inches long and four inches deep and eight inches wide. The lower section is divided and formed into two prongs or spouts, C and D, that diverge from the point of connection with the hopper, and by which grain may be conducted from the hopper into the bag E or other receptacle. On a line from *z* to *z*, and about the center of the hopper B, the boards *a a* are joined, and on the ends of these boards rests the shaft F, one of the ends, *e*, penetrating and resting in a perforation provided for it in the back board, *d*, of the hopper, the other end projecting through an aperture, *e*, provided for it in the front board of the hopper. This front end of the shaft F is provided with a crank, *g*, and which may be integral with the shaft. There is also

provided a projecting finger, *h*, to which is pivoted the pawl *i*. To the body of this shaft is attached, by the straps *f f*, a vibrating board or valve, G, which may be vibrated from one side of the hopper to the other, as shown by the dotted lines from *y* to *y*, by the rocking of the shaft in its bearings *e*. A steelyard or scale-beam, H, is pivotally connected to and supported by a bracket, J, which may be connected to the side of a thrashing-machine, or elsewhere, as occasion may require. The outer or free end is passed through the loop *k*. From the other end of the beam H is suspended a swinging platform supporting bar, K, to the lower end of which is connected a platform, L, as support for bags or other grain-receptacle. The cross-bar *m* may be supported by a connection with the spouts C and D, as shown in Fig. 4, and the swinging brace *n* has a pivotal connection with the bar *m*, as shown in Figs. 2 and 3. The lower end of the brace *n* has a pivotal connection with the swinging platform-support K, as shown at *o*, Fig. 4. The bar K is provided with a slot, *p*, into which is inserted the end *r* of the crank *g*. On the face of the hopper B there may be placed any of the well-known and approved tallies adapted to be actuated by a reciprocating spring-pawl. The mouth of the bag E may be supported by hooks on the end of the spouts or otherwise, as may be preferred. The movable weight *s* may be of any of the well-known and approved beam-weights adapted for such use.

The operation is as follows, taking the parts as now shown by the drawings: The valve G resting against the side of the hopper and over the opening into the spout C, place a bag on platform L, with mouth secured about the lower end of the spout D, set the weight *s* at the figure on the beam H, indicating the amount required in the bag—say two hundred pounds. When that amount of grain has passed into the bag, the long end of the beam will be raised, and the platform and rod are caused by the brace *n* to swing over to the other side and bring the center of gravity of the platform and the weight of the grain on one side thereof to the lowest point. This center of gravity is therefore at a certain point beyond the position where the brace-rod is vertical, and consequently causes the platform to swing back and forth each time a bag is filled. This move-

ment of the bar K just described moves the crank *g*, rocking the shaft F so as to throw the upper end of the valve G over the opposite side of the hopper, changing the current of grain from the spout D to the spout C. An empty bag having been placed on the empty end of the platform, and the open end attached to the spout C, the filled bag may be removed. The beam H will drop to the bottom of the loop *k*, thereby raising the bar K and the lower end of the brace *n* above the lowest point, *b*, of the circle described by it as it is vibrated (see dotted lines, Fig. 4) by the bar K, and in which position it will prevent the bar K from swinging until the grain resting on the platform L overbalances the long end of the scale-beam. Other receptacles may be used in place of bags when desired. By the movement of the shaft F, as hereinbefore mentioned, the finger *h*, with ratchet-pawl *i*, one end of which engages with a ratchet-wheel, *t*, will be vibrated, and by this movement rotate the registering-dial *u*. The pawl is held in engagement with the rack-wheel *t* by a spring, *v*. When desired, the gearing of the register may be adapted for the use of two actuating pawls and ratchet-wheels, so that the movement of the platform-supporting bar in either direction will actuate the register.

Having thus fully described the nature and

object of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an automatic grain-meter, the combination of the hopper B, having two outlet-spouts, C and D, the vibrating valve G, shaft F, as described, the platform-supporting bar K, the brace *n*, as described, and the scale-beam and movable weight, substantially as described, and for the purpose set forth.

2. In an automatic grain-meter, the combination of the hopper B, the vibrating valve G, the shaft F, having a crank-section, *g*, the platform-supporting bar K, platform L, the brace *n*, and the scale-beam and weight, substantially as described, and for the purpose set forth.

3. In an automatic grain-meter, the combination, with the hopper, two outlet-spouts, the vibrating valve, the crank-shaft, and the pawl secured to said shaft, of the scale-beam, a registering-dial, a bar suspended from the scale-beam and connected to the crank-shaft, the platform secured to said bar, and the brace *n*, substantially as set forth.

In testimony whereof I have hereunto set my hand this 28th day of January, A. D. 1886.

JACOB HAWK.

Witnesses:

CHAS. R. MILLER,

W. K. MILLER.