(Model.)

2 Sheets—Sheet 1.

J. A. PORTER.

Grain Measure and Register.

No. 234,804. Patented Nov. 23, 1880.

Fig. 1.

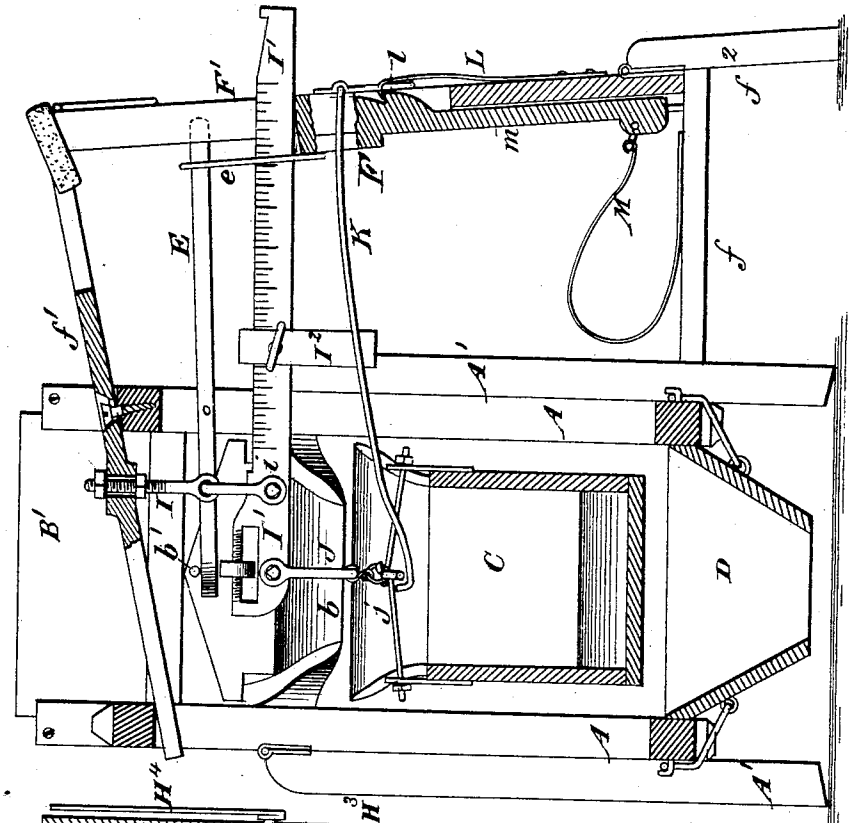
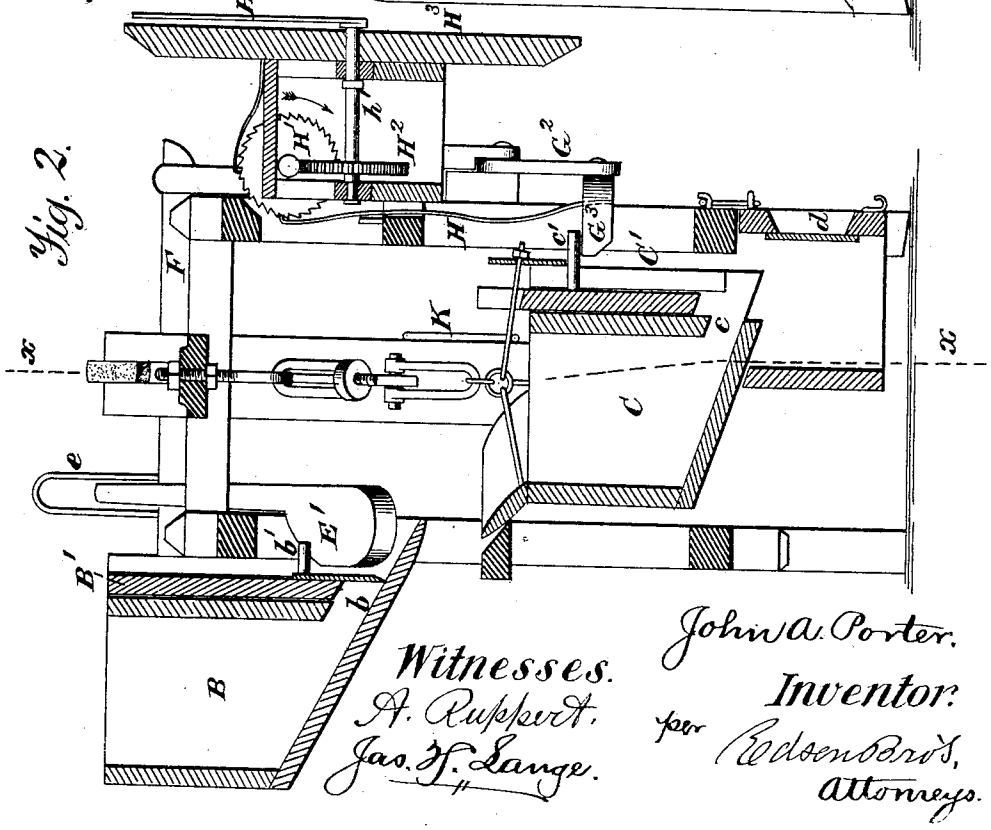


Fig. 2.



Witnesses.
A. Ruppert.
Jas. F. Lange.

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per Edson Bros.
Attorneys.

(Model.)

2 Sheets—Sheet 2.

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Fig. 3.

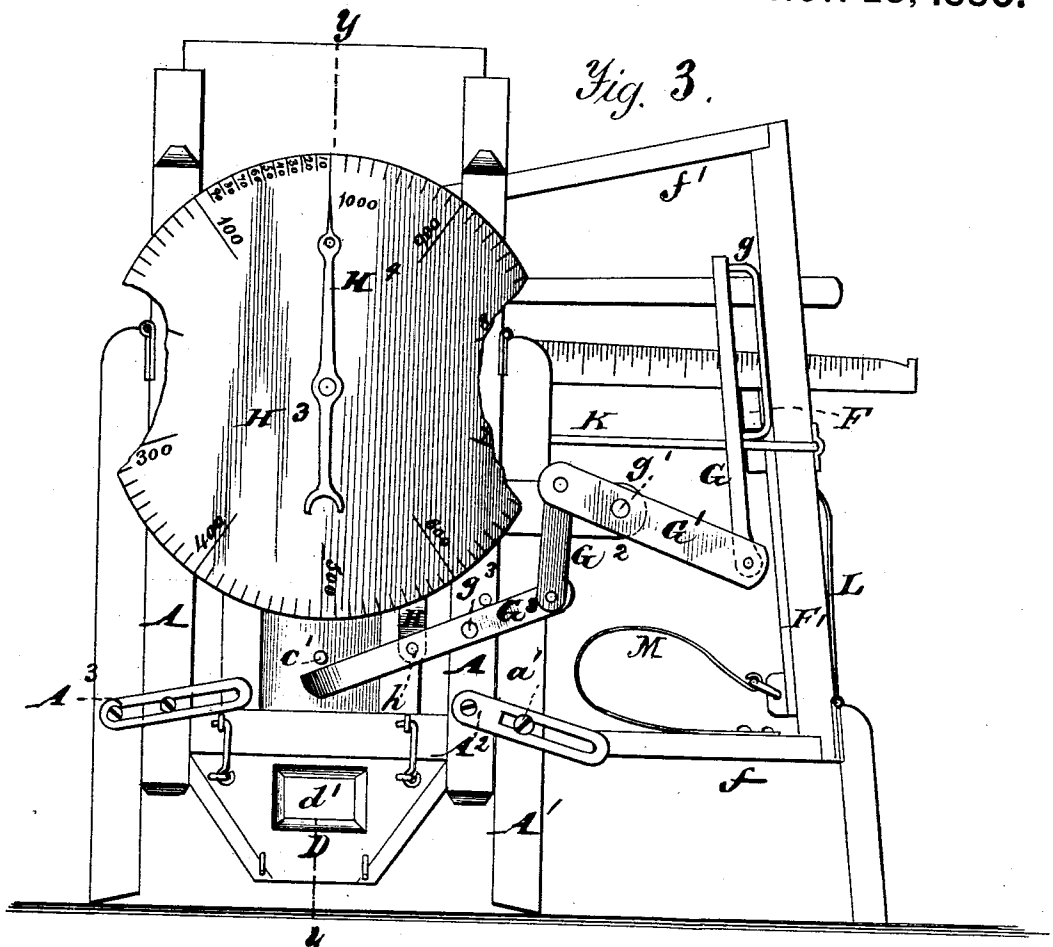


Fig. 4.

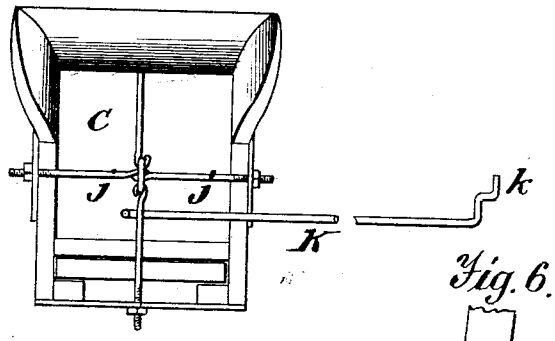


Fig. 5.

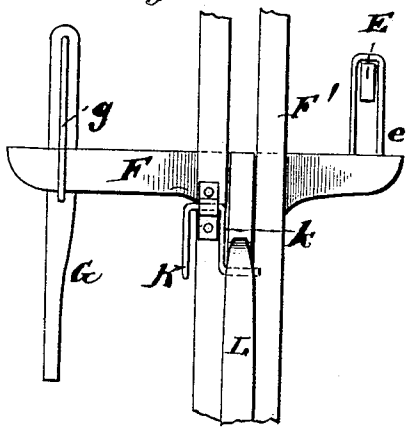
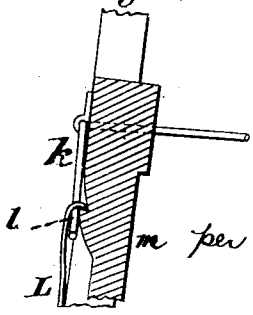


Fig. 6.



Witnesses.
A. Ruppert.
Jas. F. Lange.

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UNITED STATES PATENT OFFICE.

JOHN A. PORTER, OF OAKLAND MILLS, KENTUCKY.

GRAIN MEASURE AND REGISTER.

SPECIFICATION forming part of Letters Patent No. 234,804, dated November 23, 1880.

Application filed June 25, 1880. (Model.)

To all whom it may concern:

Be it known that I, JOHN A. PORTER, of Oakland Mills, in the county of Nicholas and State of Kentucky, have invented certain new and useful Improvements in Grain-Meters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to an automatic grain weigher, register, and sacker designed for use upon thrashing-machines, flouring-mills, grain-elevators, and all places where stored grain is to be weighed and sacked; and the novelty consists in the construction and arrangement of parts, as will be more fully hereinafter set forth.

The object of the invention is to provide a device which will receive grain, such as wheat, rye, millet-seed, and the like, from the thrasher into a receiving-box intermittently at will, allow the grain to pass by gravity into a weighing-box, which will automatically eject the proper quantity into the sacks, the amount passing into the sacks being governed at will by the operator. By this device, in addition to automatically receiving, weighing, and ejecting the grain into the sacks, a register is also automatically operated to denote the number of charges, which is indicated upon a dial.

The weighing device is capable of being so adjusted by a counterpoise sliding along the beam as to allow the operator to gage each charge at will.

The supporting-legs of the device as an entirety, allow it to be held vertically on uneven ground to insure the proper vertical position of the weighing-bucket.

In the accompanying drawings, which form a part of this specification, Figure 1 is a longitudinal section through the lines *x x*, Fig. 2. Fig. 2 is an end section through the lines *y y*, Fig. 3. Fig. 3 is a front elevation, and Figs. 4, 5, and 6 are details.

Referring to the drawings, A represents the main frame, supported on legs A′, hinged to the frame A, as shown. A^2 represents a slotted bar, pivoted to the frame A, a lug or screw, *a′*, working in said slot, allowing the hinged legs A′ to be extended to suit an uneven ground. A simple link, A^3, may be used, operating over headed lugs, one upon the frame and one upon the hinged leg, if so desired.

B represents a grain receiver or hopper having an inclined chute, *b*, governed by a vertical cut-off door, B′, having a lug, *b′*. This receiver allows the grain to gravitate into the weighing-tub C, which also has a chute, *c*, governed by a cut-off door, C′, having a lug, *c′*, as shown, and serves to eject the grain into an inclined bag-holder, D, having a glass door, *d*, and bag-holding hooks, as shown.

E represents a lever, pivoted to the frame, one end operating under the lug *b′* to lift the door B, and the other end operating in a link, *e*, upon one end of a cross-bar, F, secured to standard *m*, which operates in guideways F′, having hinged leg f^2, and secured rigidly to the frame by a brace, *f*, below, and a slotted plate, *f′*, above.

Upon the opposite end of the cross-bar F is hung a link, *g*, secured to a bar, G, pivoted to a lever, G′, which is pivoted to the frame at *g′*, as shown. A link, G^2, connects the lever G′ to a lever, G^3, pivoted to the frame at g^3, and having the opposite end operate under the lug *c′* upon the door or cut-off C′, to elevate said door.

Pivoted to the lever G^3 at *h* is a vertical bar, H, the upper end of which operates a ratchet-wheel, H′, which, by a worm, operates a cog-wheel, H^2, upon a shaft, *h′*, the outer end of which carries an index, H^4, which registers upon a face, H^3, having the ordinary marks of units, tens, hundreds, &c. These last-named features constitute a registering mechanism to register each charge, as will be hereinafter explained in the operation.

From the plate *f′* is suspended a hanger, I, which supports, on proper knife-edges *i*, a scale-beam, I′, of ordinary construction, and having a counterpoise, I^2, as shown.

From the inner end of the scale-beam I′ is suspended a link, J, which is connected to rods or arms *j*, which support the weighing-tub C. One of these rods, *j*, is arranged above the inner end of a trip or trigger, K, having a crank end, *k*, which operates to trip a spring-

catch, L, having its catch end adapted to engage a shoulder, *l*, upon the standard *m*, which reciprocates vertically in the guideways F′.

M represents the spring, which, between the plate *f* and standard *m*, exerts a constant force upwardly upon said standard.

The operation of my invention is as follows: The grain is received from the thrasher, elevator, bin, or the like into the receiver or hopper B, and passes thence to the weighing-tub C. The gate B′ is open and the counterpoise has been adjusted to make the charge correspond with size of bag or to conform to the desires of the operator. As soon as the weight of the tub and contents exceeds the weight upon the other side of the fulcrum *i* the tub descends, raising the scale-beam. One of the rods, *j*, strikes the trigger K, the catch L is released, the cross-bar ascends, the supply from B is cut off by the closing of the door B′, and instantly the door C′ of the weighing-tub C is opened, the grain cast into the bag-hopper, and the register indicates one charge. The operator then depresses the free end of the scale-beam, the door C′ gravitates until it is closed, and the door B′ is elevated to admit another charge. It will thus be observed that one man to depress the scale-beam and one to attend the bags are all that are necessary for weighing, filling, and registering grain with the use of my device.

It will be noticed that when it is desired to place the register at zero it is only necessary to raise the spring-ratchet of the wheel H′ and turn it to one side, then to turn the wheel until the index denotes the right position.

What I claim is—

1. The spring M, cross-bar F *m l*, spring-catch L, trigger K *k*, combined with link *e*, lever E, and cut-off B′ *b*′, as and for the purposes set forth.

2. The receiver B *b* B′ *b*′ and tub C C′ *c c*′, combined with an operating-spring, M, catch L, trigger K, connected levers G′ G³, cross-bar F, lever E, and the scale-beam, substantially as and for the purpose specified.

3. In a grain-meter for a thrashing-machine or the like, the hinged legs A′ f^2, and holding means A^2 *a*, combined with the frame A A F′ and adapted to secure vertical position on uneven ground, as specified.

4. The weighing-tub C C′ *c c*′, rods J, and weighing device I′ I^2, in combination with trigger K and registering mechanism, as set forth, for the purposes specified.

In testimony that I claim the foregoing I have hereunto set my hand this 25th day of May, 1880.

JOHN A. PORTER.

Witnesses:
JNO. A. CAMPBELL,
W. S. FEEBACK.