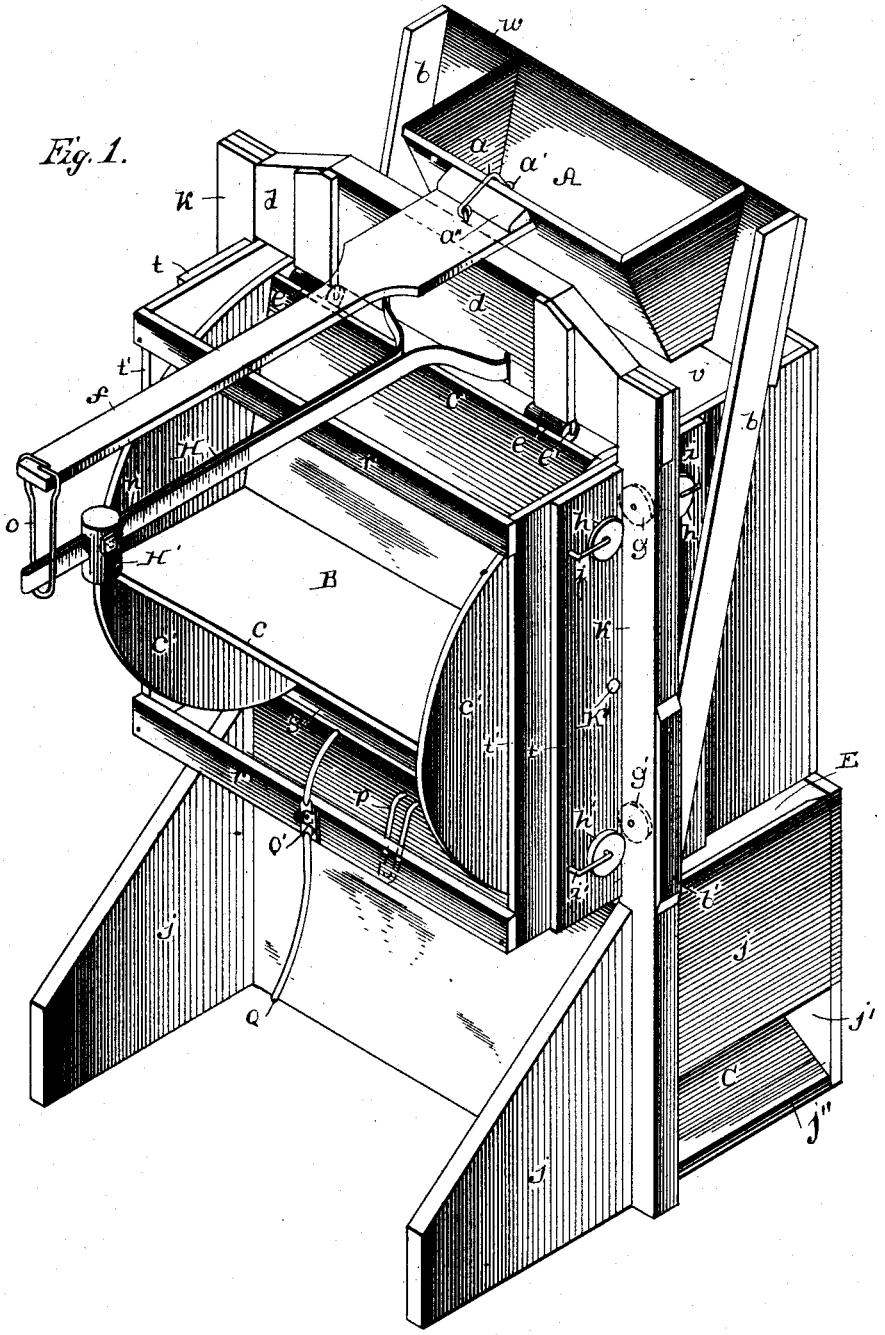
(No Model.) 3 Sheets—Sheet 1.

# G. U. POLLARD.

## ROTATING GRAIN METER.

No. 422,832. Patented Mar. 4, 1890.

Fig. 1.

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(No Model.) 3 Sheets—Sheet 2.

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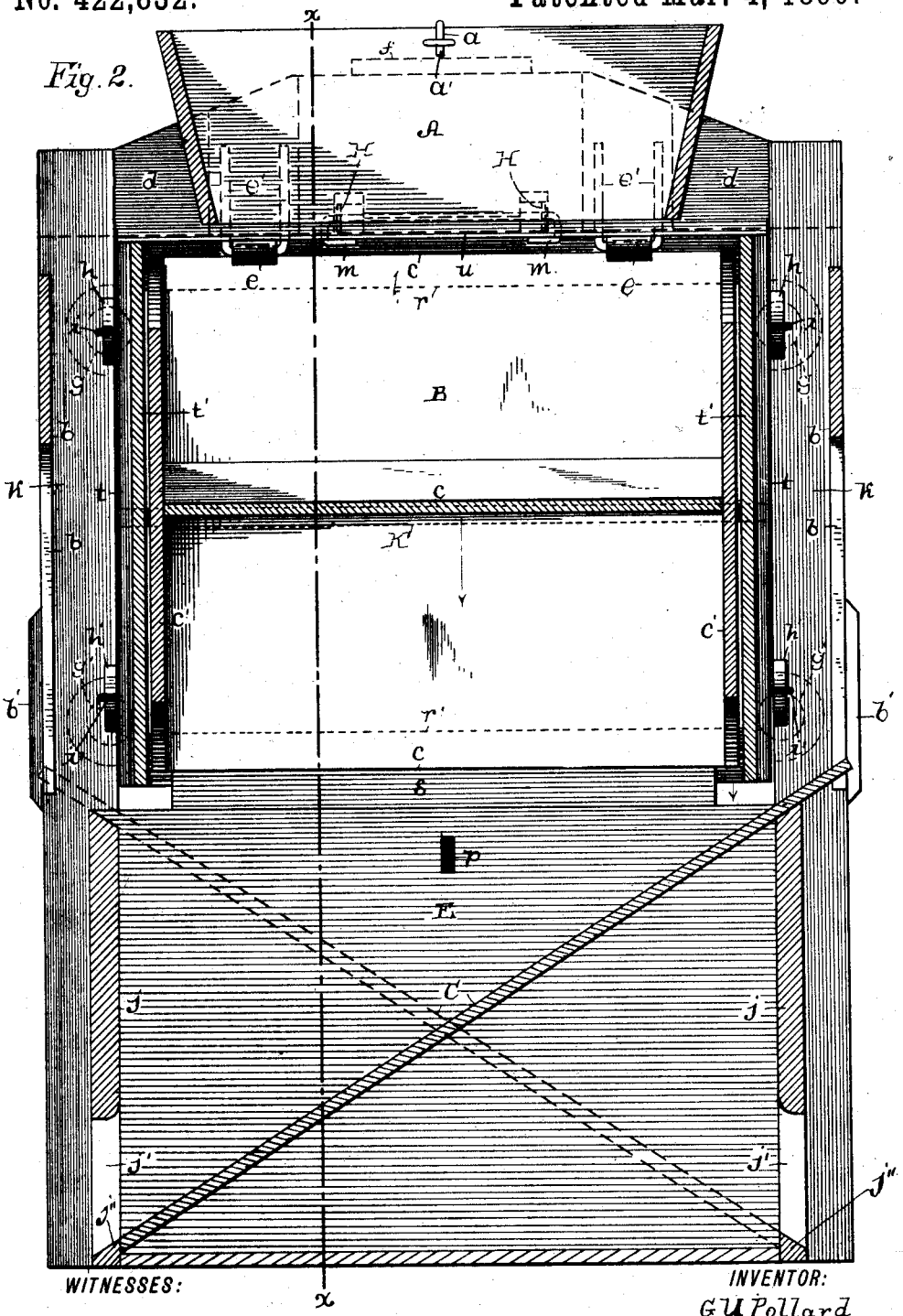
## ROTATING GRAIN METER.

No. 422,832. Patented Mar. 4, 1890.

Fig. 2.

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## ROTATING GRAIN METER.

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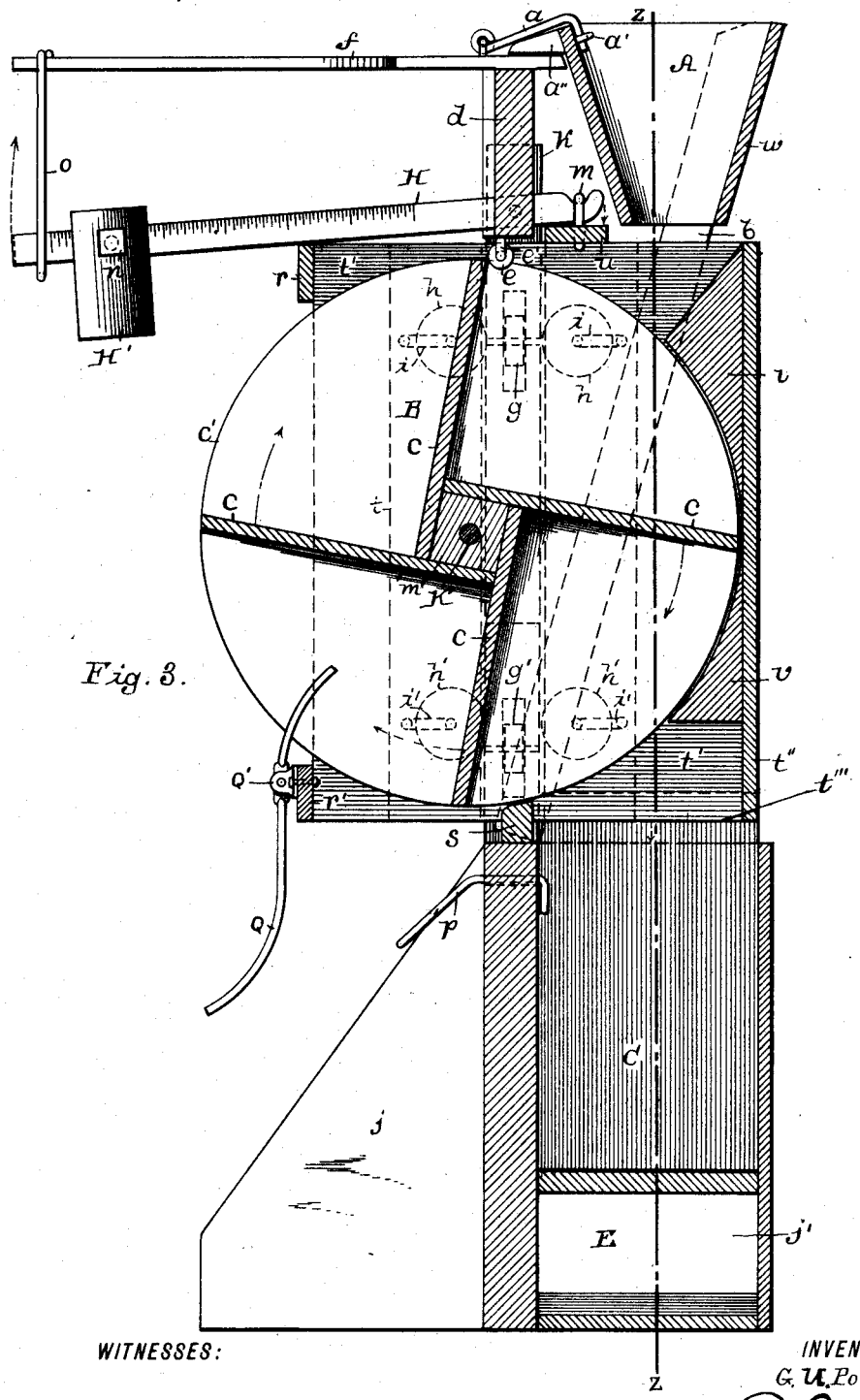


Fig. 3.

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# UNITED STATES PATENT OFFICE.

GRANT U. POLLARD, OF SEDGWICK, KANSAS.

## ROTATING GRAIN-METER.

SPECIFICATION forming part of Letters Patent No. 422,832, dated March 4, 1890.

Application filed June 24, 1889. Serial No. 315,414. (No model.)

*To all whom it may concern:*

Be it known that I, GRANT U. POLLARD, of Sedgwick, Harvey county, Kansas, have invented certain new and useful Improvements in Weighing and Measuring Devices, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in grain measuring and weighing machines; and it consists in a certain novel construction and arrangement of devices, fully described hereinafter in connection with the accompanying drawings, and specifically pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a grain measuring and weighing machine embodying my improvements. Fig. 2 is a vertical transverse sectional view of the same on the line *z z* of Fig. 3, and Fig. 3 is a vertical longitudinal sectional view of the same on the line *x x* of Fig. 2.

The hopper A is provided with a rear board *w*, which is extended laterally and secured firmly to the upper ends of the inclined supporting-bars *b b*, which are suitably affixed at their lower ends to the frame of the machine near the uprights K K. Said uprights are connected at their upper ends by the cross-bar *d*, to the center of which is attached one end of a horizontal forwardly-extending arm *f*, and a hook *a*, which is connected to the said horizontal arm near its rear end, engages an eye *a'* on the hopper to steady the same. The upper edge of the hopper abuts against a small block *a''* on the rear end of the said horizontal arm.

Between the uprights K K is arranged a vertically-sliding frame having the side plates *t' t'*, which are connected at their upper and lower ends by the cross-bars *r* and *r'*, said side plates being provided on their outer sides with vertical parallel guide-strips *t t*, which bear at their edges against opposite sides of the uprights to guide the frame in its vertical motion. Anti-friction rollers *h h'* are also mounted in keepers *i i'* on the sides of the sliding frame and bear against the sides of the uprights, and similar rollers *g g'* are mounted in recesses in the inner sides of the uprights to bear against the side plates *t'* to reduce the friction in sliding the frame.

A scale-beam H is mounted on the cross-bar *d*, and its rear end, which projects beyond the rear surface of said cross-bar, is hook-shaped and is engaged in a staple *m*, located upon an upper cross-bar *u* of the sliding frame. This scale-beam is graduated and carries an adjustable weight H', which is provided with a set-screw *n*, whereby it may be clamped at any desired point of the beam. The front or free end of the horizontal arm *f* is provided with a depending guide-loop *o*, in which the free end of the scale-beam operates to prevent lateral vibration thereof.

Within the sliding frame, on a suitable spindle K', is mounted the rotary receiver B, which consists of a central angular (preferably square) core *m'*, the wings *c c*, which are secured, respectively, to the sides of the core, and the circular heads *c' c'*, which are secured to the ends of the core and the wings and are arranged close to the side plates of the frame.

Stationary stops *e* depend from the lower edge of the cross-bar *d* to check the wings *c* successively as the receiver rotates, said stops consisting, preferably, of anti-friction rollers *e*, mounted on loops *e' e'*.

When the sliding frame is in its normal or elevated position, being held in this position by the counterbalancing-weight on the free end of the scale-beam, the free edge of one of the wings *c* bears against the said stops, and the receiver is thereby prevented from rotating; but if sufficient weight (as of grain) is applied to that wing of the receiver which is below the hopper to depress the sliding frame and raise the counterbalancing-weight the approximately vertical wing will be disengaged from the stops and the receiver will be allowed to rotate and deposit the grain in a suitable receptacle. As the receiver is thus relieved of its weight the sliding frame will be again raised by the weight H' and the succeeding wing will engage the stop and again check the rotation of the receiver.

The sliding frame is provided with a rear plate *t''*, to which are secured the beveled blocks *v v*, which are provided with concave outer faces to conform to the rotary receiver, whereby the grain which is deposited on the horizontal (or approximately horizontal) wing of the receiver cannot slide therefrom until the receiver is released and rotates, as above

described. When the receiver is provided with four wings, as shown in the drawings, it turns through one-fourth of a revolution each time it is released from the stop.

The sliding frame is provided below the rotary receiver with an opening $t'''$, through which the grain is allowed to drop, and at the front side of the said opening is arranged a flanges to prevent the grain from becoming scattered as it is dropped from the wing of the receiver.

Beneath the opening $t'''$ is arranged a chute E, having the sides $j$ $j$, in which, at their lower edges, are formed openings $j'$ $j'$, and an inclined removable slide C is arranged in the chute, with its upper end bearing on the upper edge of one side of the chute and its lower end arranged adjacent to the opening $j'$ in the opposite side of the chute. A small flange $j''$ is arranged at the bottom of each of the openings $j'$, against which the lower end of the slide bears. This slide is designed to direct the grain which is discharged from the receiver to one of the openings $j'$, from which it passes to a suitable vehicle or car, and the slide may be arranged either in the position shown in full lines in Fig. 2 or in the position shown in dotted lines in the said figure, according to the side of the machine from which it is desired to discharge the grain.

A check-lever Q is pivoted at Q′ on the lower cross-bar $r'$ of the sliding frame, whereby its upper end may be arranged in the path of the wings of the receiver to permanently stop the rotation of the same, said lever being held out of the range of the wings when the machine is in operation by engaging its lower end in a stirrup $p$, which is secured to the frame of the machine.

From the above description the operation of my improved grain-weighing machine will be readily understood. The position of the weight on the scale-beam indicates the quantity of grain which must be deposited in the receiver in order to depress the sliding frame and free the engaged wing of the receiver, and therefore at each partial rotation of the receiver a certain known weight of grain is discharged into the chute and from thence conducted to the vehicle or car. Any suitable registering device may be employed to register the number of partial revolutions of the receiver, from which may be calculated the number of bushels or pounds of grain which have been discharged; but as such registering devices are in common use and their application is well known I have not shown one in connection with my improved machine.

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

1. In a grain-meter, the combination of a supporting-frame having side uprights K K and a cross-beam $d$, the anti-friction rollers $g$, mounted in recesses in the uprights and projecting beyond their inner faces, the sliding frame fitting between said uprights and provided with projecting cleats $t$, carrying anti-friction rollers to bear on the sides of said uprights, the rotary winged receiver B, mounted in said sliding frame, the stop-roller $e$, arranged on the cross-beam, and the scale-beam H, connected to the sliding frame, substantially as specified.

2. In a grain-meter, the combination of the supporting-frame having uprights K, the sliding frame fitting between said uprights and provided at its bottom with an opening $t'''$ and a flange $s$, the rotary winged receiver B, mounted in the sliding frame, the curved or concaved blocks $v$ $v$, arranged in the sliding frame adjacent to the periphery of the receiver, the stop $e$, and the scale-beam connected to the sliding frame, substantially as specified.

3. In a grain-meter, the combination, with a rotary winged receiver and a suitable stop mechanism to check the rotation of the receiver at intervals, of the pivoted check-lever Q, fitting in a sleeve Q′ and adapted to be manipulated to check the receiver, substantially as specified.

4. In a grain-meter, the combination, with a rotary winged receiver, of a pivoted check-lever Q, to engage the wings of said receiver, and a loop $p$, to engage one arm of said check-lever, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

GRANT U. POLLARD.

Witnesses:
H. A. HARTMAN,
E. A. POLLARD.