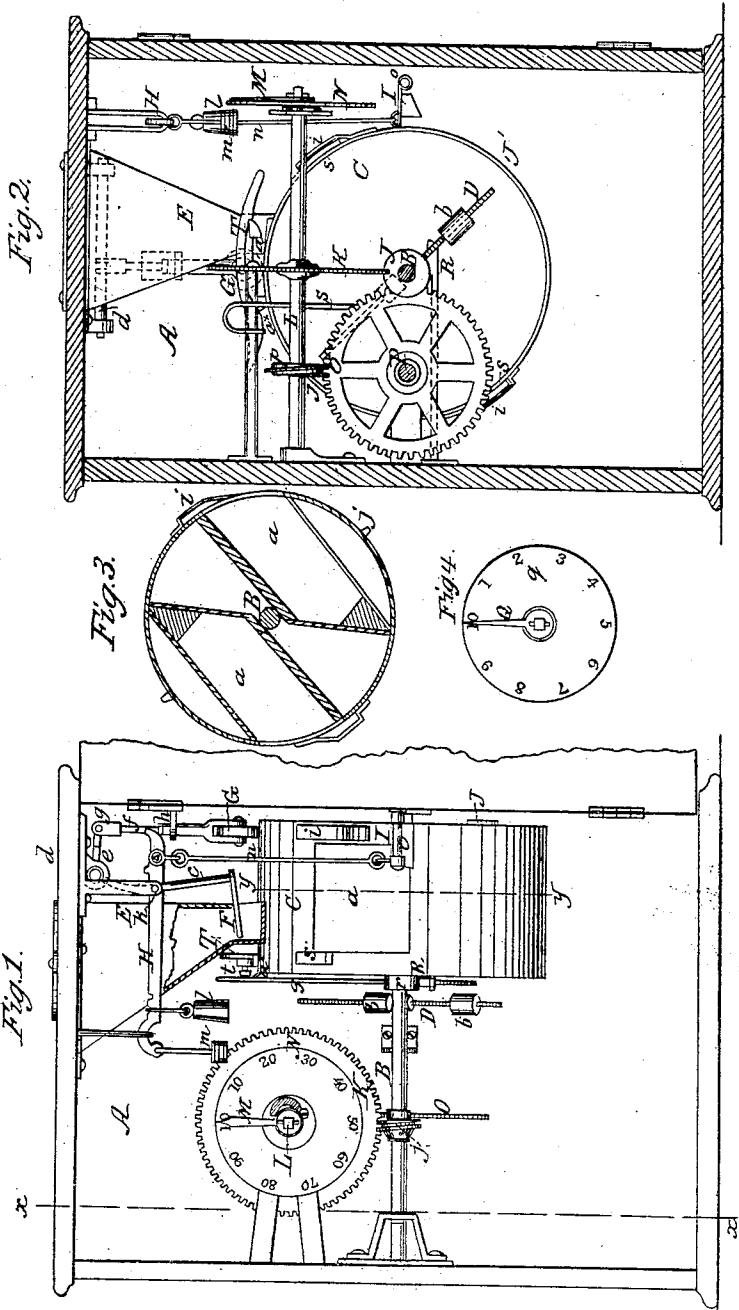


T. WILSON.
Grain Meter.

No. 39,980.

Patented Sept. 15, 1863.



Witnesses.
J. W. Coombs.

Inventor.
Thomas Wilson
per Mumut & Co Attorneys.

UNITED STATES PATENT OFFICE.

THOMAS WILSON, OF METAMORA, ILLINOIS.

IMPROVEMENT IN MACHINES FOR MEASURING GRAIN.

Specification forming part of Letters Patent No. 39,980, dated September 15, 1863.

To all whom it may concern:

Be it known that I, THOMAS WILSON, of Metamora, in the county of Woodford and State of Illinois, have invented a new and Improved Grain-Measuring Device; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a front view of my invention, the door of the case being opened in order to show the working parts of the device; Fig. 2, a vertical section of the same, taken in the line *x x*, Fig. 1; Fig. 3, a detached section of the measuring-cylinder, taken in the line *y y*, Fig. 1; Fig. 4, a detached view of an index and dial pertaining to the invention.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to obtain a simple and efficient device, which may be applied to or used in connection with a thrashing-machine, and which will measure with accuracy and indicate the number of bushels of grain that have passed through or have been thrashed out by the thrashing-machine.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a rectangular box, which contains the working parts of the device, and B is a shaft which is fitted horizontally in said box, and has a cylinder, C, upon it, said cylinder being provided with two receptacles, *a a*, the orifices of which are at opposite points on the cylinder, as indicated in Fig. 3. This cylinder is properly balanced on the shaft B by means of a screw-rod, D, which passes transversely through the shaft B, and has two weights, *b b*, fitted upon it at opposite sides of the shaft. By adjusting these weights it will be seen that the cylinder may be perfectly balanced on its shaft B.

E is a hopper, which is placed in the upper part of the box A, directly over the cylinder C, and F is a slide, which is attached to the lower end of an arm, *c*, the upper end of which is screwed to a shaft, *d*, having a rod, *e*, projecting from it, to the outer end of which a vertical rod, *f*, is attached by a pivot, *g*. This rod *f* works in a guide, *h*, attached to the inner side of the box A, and has a roller, G, fitted

in its lower end, said roller bearing upon the periphery of the cylinder C.

To the periphery of the cylinder C, in line with the roller G, there are attached two projections, *i i*. These projections are at opposite points on the cylinder, as shown clearly in Figs. 2 and 3. The slide F works underneath the discharge-orifice of the hopper and cuts off the discharge of grain therefrom at certain times, as will be presently described. To one side of the cylinder C there are also attached two projecting pins, *j j*, the use of which will be presently shown.

H is a scale-beam, which is suspended in the upper part of the box A, as shown at *k*, and is provided with the usual weight, *l*, and counter-piece *m*. The short arm of this beam is connected by a rod, *n*, with a plate, I, which is fitted loosely at one end on a rod, *o*, attached horizontally to the inner side of the box A, the plate I being allowed to work on them freely on said rod *o*.

On the cylinder-shaft B there is placed a worm-wheel, J, which gears into a toothed wheel, K, the shaft L of which has an index, M, upon it at one end, said index traversing over a dial, N. The shaft L also has a worm-wheel, *p*, upon it, which gears into a toothed wheel, O, the shaft P of which has an index, Q, upon it at one end, said index traversing over a dial, *q*.

On the shaft B, adjoining the cylinder C, there is a cam, *r*, which acts upon an elastic bar, R, immediately below it. To this bar R there is attached a vertical rod, S, the upper end of which is bent or curved, and projects horizontally as shown at *a^s*, over the cylinder C, to which, in line with *a^s*, there are attached two projections, *s s*, of leather or other suitable material, said projections being placed at opposite points on the cylinder C.

T is a lever, nicely balanced on its fulcrum *t*, and having a notch, *u*, in its under side.

The operation is as follows: Suppose the cylinder C to be in such a position that one of its receptacles, *a*, will be under the discharge aperture of the hopper E. When the cylinder is in this position, the slide F will be out from the hopper in order to admit of the grain passing into the receptacle *a*, the slide F being moved out in consequence of one of the projections *i* raising the roller G, and thereby actuating the slide. The grain falls

into the receptacle *a*, and when a sufficient quantity is in said receptacle to throw the cylinder C out of balance, the cylinder will turn until one of the pins *j* strikes the plate I, and if the requisite quantity of grain is in said receptacle the pin *j* will pass said plate I and move the scale-beam H. If there is not sufficient grain in the receptacle to effect this, the cylinder will be retarded by the plate I, and the flow of the grain into the receptacle will be continued until the plate I is passed, it being understood that this preliminary movement of the cylinder does not admit of the orifice of the receptacle passing out from underneath the hopper E. The cylinder turns until the grain is discharged from the receptacle *a*, and the other or empty receptacle is brought underneath the hopper E, the slide F closing when the projection *i* has passed from underneath it, so that the grain cannot pass from the hopper E until the empty receptacle *a* is underneath it, and the other projections *i* raise the roller G and throw out the slide F. The two receptacles *a a* are thus alternately filled and discharged, and the revolutions of the cylinder C will be noted by the index M on the dial N and the index Q on the dial *g*. One dial may indicate bushels or units, and the other tens, hundreds, or thousands, according as the gear which operates the indexes is arranged. Each time the cylinder makes a half revolution its motion is retarded near the completion of its movement in consequence of the cam *r* pressing upon the elastic bar R, and thereby drawing down the rod S, so that its upper horizontal end, *a*^x, will press down upon one of the projections *s*, and thereby retard the speed of the cylinder, so that the balance-lever T will catch over said projection and stop the cylinder, said lever offering but as light resistance

as but little is required. As each receptacle *a* becomes filled, or nearly so, the projections *s* readily escape from the lever to admit of the cylinder turning. Thus it will be seen that grain may be measured accurately by weight and the number of bushels indicated at the end of the work or operation.

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

1. The cylinder C, provided with two grain receptacles, *a a*, in connection with the hopper E, provided with the slide F, operated through the medium of the roller G and projections *i i*, substantially as and for the purpose herein set forth.

2. The scale-beam H, connected with the hinged plate I, in combination with the pins *j j* on the cylinder C, arranged to operate as and for the purpose set forth.

3. The screw-rod D, passing through the cylinder-shaft B, and provided with the weights *b b*, for the purpose of balancing the cylinder C on the shaft B, as specified.

4. The two indexes M Q, operated by gearing from the shaft B, substantially as shown, when said indexes and dials are used in combination with the cylinder C and scale-beam H, and all arranged for joint operation, as and for the purpose set forth.

5. The brake formed of the cam *r* on shaft B, the elastic rod R, rod S, curved or bent as shown, and the projections *s s* on the cylinder C, in combination with the lever or catch T, all arranged to operate as set forth.

THOMAS WILSON.

Witnesses:

EDGAR BABCOCK,
W. W. DE MERRITT.