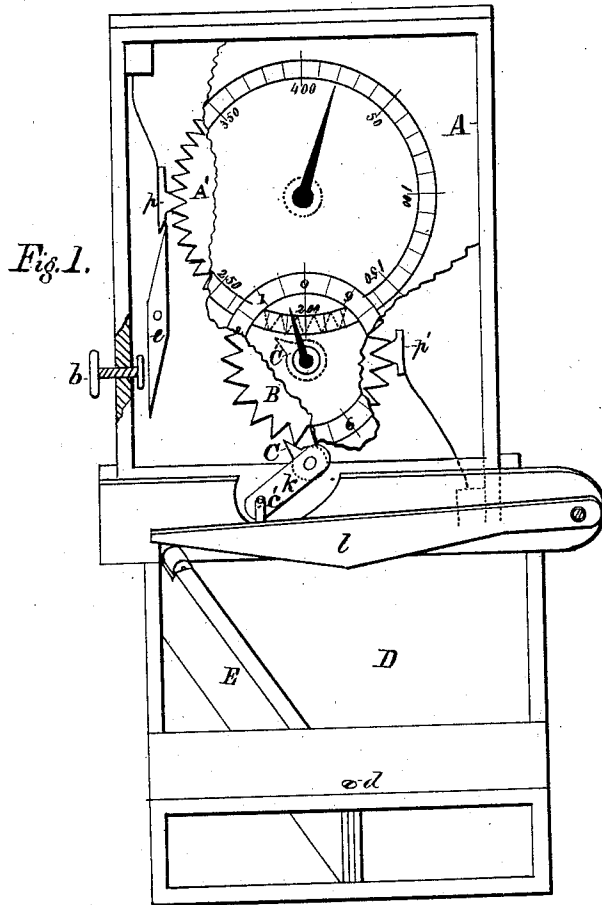


M. SHAWVER.
GRAIN-REGISTER.

No. 179,136.

Patented June 27, 1876.



Attest.

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UNITED STATES PATENT OFFICE.

MICHAEL SHAWVER, OF CLARKE COUNTY, OHIO.

IMPROVEMENT IN GRAIN-REGISTERS.

Specification forming part of Letters Patent No. **179,136**, dated June 27, 1876; application filed October 22, 1875.

To all whom it may concern:

Be it known that I, MICHAEL SHAWVER, of the county of Clarke and State of Ohio, have invented certain Improvements in Tallying-Machines or Grain-Registers, of which the following is a specification:

My invention relates to that class of tallying-machines or grain-registers which are attached to thrashing-machines for the purpose of registering the number of bushels of grain or seed thrashed and measured as it passes through them.

My invention has for its object simplicity of construction, cheapness of cost, ease of operation and attachment to the thrasher, and certainty in correct registry, also facility for recommencing.

A small wooden case incloses the mechanism, which is operated by a switch-gate in an inclined spout passing under it. Two dial-plates are seen upon the front of the case, one of which shows the number of half bushels of grain thrashed up to ten, while the other gives the number in hundreds.

Figure 1 is a front view of my improved tallying-machine. A portion of the face (including part of the dial-plate) is shown broken or cut away to exhibit the interior mechanism.

A is the case, which is attached to the side of the thrashing-machine, its base resting upon the grain-spout D, which forms a part of the device. A' (the great wheel) registers the number of bushels by hundreds upon the dial in front of it. B is a smaller wheel, having larger teeth, and a single-toothed pinion, C', on its shaft, (under the small dial,) which meshes into the teeth of wheel A'. C is a single-toothed wheel, which turns only partially around, so as to impinge against the teeth of wheel B, rebounding after each contact, and moving B one tooth each time. It has a crank-lever, K, on the front end of its shaft, which is connected, by the small link or lever c', to the latch-lever l. The latter extends across the spout D, being pivoted at its right end to the base of case A. It is made thickest in the middle, forming an obtuse angle on its lower edge, so as to allow it to rise up when operated upon by the switch-gate E, passing under it from side to side. The latter is pivoted by its lower end in the middle of the open end of

spout D. It is made of board, set in edgewise the same depth of the spout, and extends back under the latch-lever l, as shown in the figure. Both wheels A' and B are provided with retaining-pawls, mounted upon springs. That of p projects downward from the upper left corner of case A, and meshes into the teeth of wheel A'. The lower end of this pawl is prolonged, so as to be operated upon by the upper end of the reactionary lever e, which is pivoted upon a pin at its middle part, so that when its lower end is pushed in by the loose stud b, (which passes at this point through the case, its head projecting outside,) its upper end, lapping behind the prolonged end of pawl p, throws it out of gear with the wheel.

The object of this device is to allow the wheel A to be turned backward with its index to the point of beginning, when it is desired to recommence tallying.

In operating the machine the index-hands are first set at zero, the thrasher set in motion, and the grain passes through the spout D from rear to front from the conveyers. Two half-bushels are provided, and as soon as one is filled the switch-gate E is switched to the opposite side of the spout, cutting off the stream of grain and directing it into the other half-bushel. The movement of gate E raises the latch l, and the connecting or link lever c' pushes up crank-lever k, attached to the shaft of the rebounding single-toothed wheel C, which turns to the right until its tooth moves the wheel B one notch, raising pawl p', (which falls into the next notch,) and the index on the small dial marks one tally, or one half-bushel. The gate is then switched to the opposite side, marking as before, the wheel C rebounding after each movement. When wheel B has made one revolution and marked ten tallies, the single-toothed wheel C' catches one of the teeth of wheel A', raising its retaining-pawl p, and moving it one notch.

The teeth of the wheels and their pawls are all V-shaped—i. e., their faces have equal angles, and are beveled to an edge—as other-shaped teeth would not operate in the same manner with the single-toothed wheel C.

The shaft of the great wheel A' should be extended out of the back of the case, or it may be provided with a post for a key, by which it

can be turned backward in beginning, when the pawl *p* is raised by the lever *e* with stud *b*.

To lessen the cost of construction, I make the wheels and pawls of wood, hard wood being preferable. Any ordinary mechanic can construct the device.

The front of the case is entirely tight, and the whole is excluded from dust, and from being tampered with, by inclosing it in an air-tight box, which is readily attached to the thrasher.

I am aware that tallying-machines registering by clock-gearing are not new, and I do not wish to be understood as claiming the same as any part of my improvement.

In all ordinary registers or tallying-machines, where the movement is transmitted from a cut-off valve or switch-gate to the gearing, the tooth, pin, or cog, or other projection, after contact with the tooth of the wheel which marks the tally, passes by said tooth, either in full or partial rotation of said pin or cog. Such movement is old, and I do not claim it; but the rebounding single-toothed wheel *C*, by which the machine is operated, as well as the lever *e*, with its operative stud *b*, in combination with the pawl *p* and the gearing shown, I believe to be new.

I therefore claim—

1. In combination, in a grain-register or tallying-machine, having a case, *A*, provided with two graduated dials and wheels, *A'* and *B*, having teeth with equal angles, (the latter with its single-toothed wheel *C'*, mounted on the same shaft,) and their respective retaining-pawls *p* and *p'*, constructed as specified, the rebounding single-toothed wheel *C* its connecting-lever *c'*, crank-lever *k*, latch *l*, switch-gate *E*, and spout *D*, as and for the purpose hereinbefore set forth.

2. In a tallying machine having a case, *A*, provided with a single spout, *D*, and a switch-gate, *E*, therein, the auxiliary connections *k*, *l*, and *c'*, for operating wheels *C*, *B*, *C'*, and *A'*, having teeth whose faces are of equal angles, and, through the adaptation of their respective pawls *p* and *p'*, of like shape, allowing said wheels to be turned backward, after registering their full tally, to the place of beginning, when released by lever *e* and stud *b*, substantially as hereinbefore set forth.

MICHAEL SHAWVER.

Attest:

EZRA DAVEE,
B. C. CONVERSE.