Hines, Saterlee & Harden.

Grain Register.

No. 36,565. Patented Sept. 30, 1862.

Fig. 1.

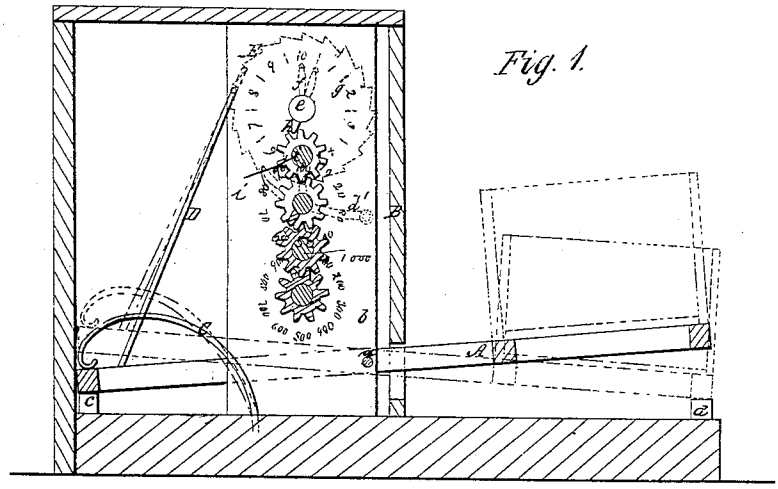
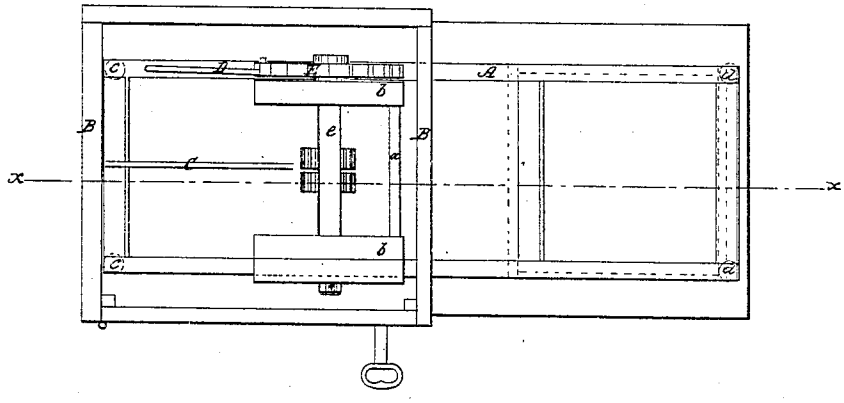


Fig. 2.



Witnesses:
H. W. Coombs
G. W. Reed

Inventors:
L. W. Hines & Saterlee
S. W. Harden,
per Munn & Co Attys

UNITED STATES PATENT OFFICE.

L. W. HINES, G. SATERLEE, AND S. W. HARDEN, OF QUASQUETON, IOWA.

IMPROVEMENT IN GRAIN-REGISTERS.

Specification forming part of Letters Patent No. **36,565**, dated September 30, 1862.

To all whom it may concern:

Be it known that we, L. W. HINES, G. SATERLEE, and S. W. HARDEN, all of Quasqueton, in the county of Buchanan and State of Iowa, have invented a new and Improved Machine for Tallying Grain, &c.; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a longitudinal vertical section of our invention, the line *x x*, Fig. 2, indicating the plane of section. Fig. 2 is a plan or top view of the same, the top of the box being removed to expose the working-parts.

Similar letters of reference in both views indicate corresponding parts.

The object of this invention is to produce a simple, sure, and effective machine for measuring, registering, or tallying grain, corn, &c.

The invention consists in the application of two stops, one on either end of a swinging spring lever or frame, one end of which is designed to receive the grain-measure, whereas its other end is subjected to the action of a spring or its equivalent, and acts, by means of a spring-pawl, on a ratchet-wheel in such a manner that whenever the measure is filled and the swinging frame depressed the action of the spring-pawl is sure to propel the ratchet-wheel exactly one tooth, and when the measure is emptied the inner end of said swinging frame descends, by the action of the spring, just far enough to cause the pawl to catch in a new tooth of the ratchet-wheel, ready for a new move.

It consists, further, in combining with the swinging frame a closed box provided with narrow slots, through which the side timbers of the frame extend, and arranged so that the same protect the inner end of the swinging frame, together with the spring-pawl and registering apparatus, against the injurious influence of the dust which rises during the operation of handling the grain.

To enable those skilled in the art to make and use our invention, we will proceed to describe it with reference to the drawings.

A represents a frame made of timber or any other suitable material and sufficiently wide to afford a convenient space for the grain-measure. This frame is fulcrated on a pivot, *a*, which is firmly inserted in two uprights, *b*, in the interior of the box B. The longitudinal timbers of the frame A pass through narrow slots in one side of said box, and it (the frame) extends through the whole length of said box, as clearly shown in the drawings. This box incloses the working parts of our device and the registering mechanism, so that the same are not exposed to the injurious influence of the dust. A spring acts on that end of said frame which is inclosed in the box and forces the same down upon two stops, *c*, which are of such a length that the frame assumes a slightly-inclined position, as clearly shown in Fig. 1 of the drawings. This spring is so adjusted that it holds the swinging frame in said inclined position until the measure, which is placed on the outer end of the frame, as shown in red outlines in Fig. 1, is filled with grain. When this takes place, the combined weight of the grain and measure overcomes the power of the spring, and the outer end of the frame A sinks down until it strikes the stops *d*, as indicated in red outlines in Fig. 1 of the drawings.

The registering apparatus is operated by means of a spring-pawl, D, which rises from the inner end of the frame, and which catches in the teeth of a ratchet-wheel, E, said ratchet-wheel being prevented from moving in a backward direction by a click, *d'*. The swinging motion of the frame A is so adjusted, by means of the stops *c d*, that the pawl D takes exactly one tooth for each stroke of the frame, and the ratchet-wheel is secured to an arbor, *e*, which bears an index, *f*, that moves on the face of the dial *g*.

Suitable marks and figures indicate the number of strokes of the frame A, and a cam, *h*, projecting from the arbor *e*, transmits the motion of the ratchet wheel to the second arbor, *i*, &c.

The several indices and dials are so arranged that the first index shows the number of double strokes of the frame (each single stroke corresponding to half a bushel) from 0 to 10, the second index up to 100, and the last up to 1,000; and it is obvious that these indices and the registering mechanism may be altered at pleasure, so as to indicate any desired quantity.

It must be remarked that instead of the spring C a weight may be used, and the weight or spring may be so arranged that it can be

adjusted to suit different measures or quantities of grain or corn.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The arrangement of the stops *c d*, in combination with the swinging frame A, spring C, or its equivalent, spring-pawl D, and ratchet-wheel E, all constructed and operating as and for the purpose herein shown and described.

2. The arrangement of the closed box B, in combination with the swinging frame A, spring C, and with the registering mechanism, as and for the purpose specified.

L. W. HINES.
G. SATERLEE.
S. W. HARDEN.

Witnesses:
A. CROOKS,
WM. MORGAN.