

110605

W Z Taylor
Grain Register

PATENTED DEC 27 1870

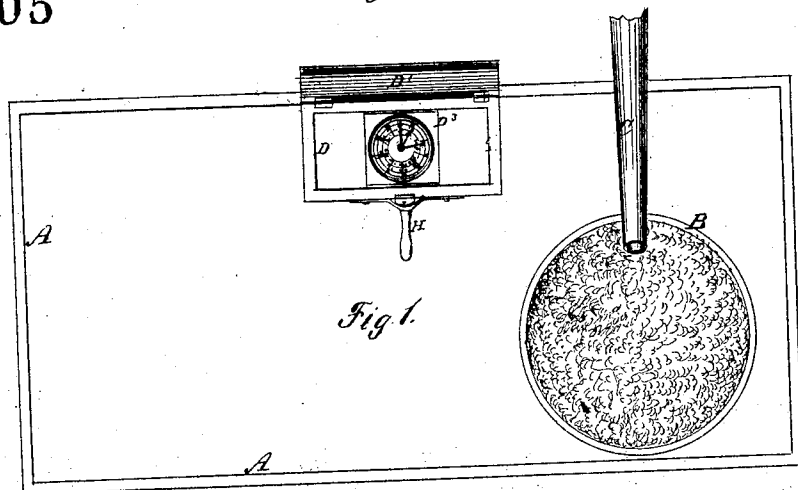


Fig. 1.

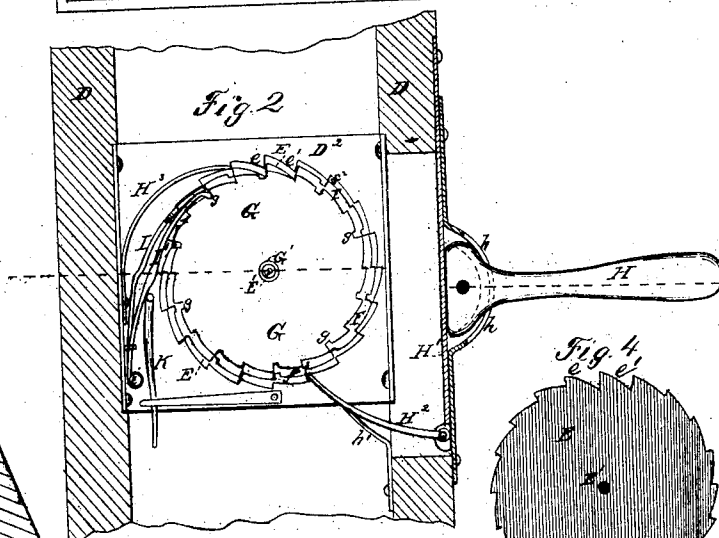


Fig. 2.

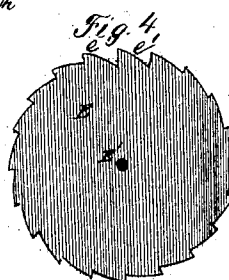


Fig. 4.

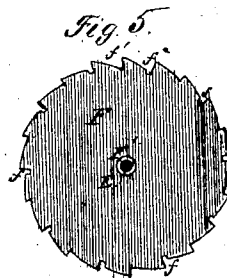


Fig. 5.

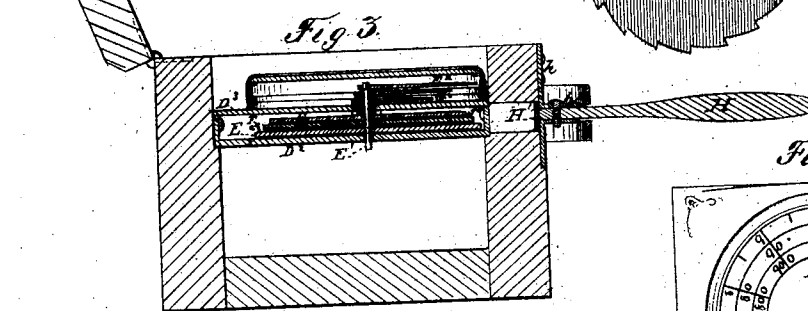


Fig. 3.

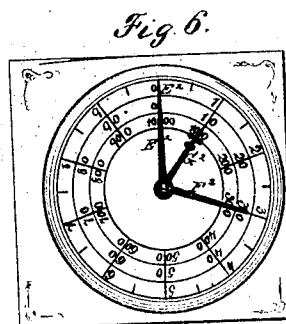


Fig. 6.

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WILLIAM Z. TAYLOR, OF BURLINGTON, IOWA, ASSIGNOR TO HIMSELF
AND JOHN R. KING, OF SAME PLACE.

Letters Patent, No. 110,605, dated December 27, 1870.

IMPROVEMENT IN GRAIN-REGISTERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM Z. TAYLOR, of Burlington, in the county of Des Moines and State of Iowa, have invented certain Improvements in Grain-Registers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawing making part of this specification, in which—

Figure 1 represents a plan view of the register, showing its arrangement in a box, with reference to the spout which delivers the grain into the half-bushel measure.

Figure 2 represents a horizontal section of the registering apparatus.

Figure 3 is a vertical transverse section thereof.

Figure 4 is a plan view of the wheel, which registers the number of half-bushels.

Figure 5 is a plan view of the wheel which registers up to one hundred bushels by tens.

Figure 6 is a plan view of the dial and the hands.

The same letters are used in all the figures to indicate identical parts.

This invention relates to that class of apparatus or registers which is used for tallying the number of bushels of grain received from the thrashing-machine, or from a bin in which it may be stored.

My improvement consists in the employment, in connection with the decimal-wheels, of spring detents which lock them during the intervals between their movements, and projections on the respective wheels underlying those upon which said detents act to throw the latter out of gear at the proper times, that one or both may be moved simultaneously with the unit-wheel, as will be more fully set forth hereinafter.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

The register will usually be secured on one side of a rectangular box, A, about midway between its ends.

The width of this box is such that on pushing the half-bushel measure along between the register and the opposite side of the box it will turn a projecting lever of the former, and through such lever operate the registering-wheels.

The half-bushel measure is shown at B, and the grain-delivering spout at C, in fig. 1.

The registering mechanism is inclosed in a covered box, D, provided with a hinged lid, D', and arranged therein between two metallic plates, D² and D³.

The upper plate D³ has a dial upon its face, consisting of three concentric rings, inclosed by circular lines, the outer ring indicating by halves from 0 to 9; the middle one by tens, from 0 to 90; and the inner one by hundreds, from 0 to 900. The dial is covered by a crystal.

E represents the wheel, which indicates or registers the number of half-bushels passed by the apparatus. It is a ratchet-wheel, firmly secured to a vertical arbor, E¹, which revolves in bearings in the plates D² and D³, and projects above the latter for some little distance, to receive upon its upper squared end a hand, E², which reaches to the outer ring of the dial.

The wheel has twenty teeth, and each time the measure is pushed by it the cam-lever H will turn it by the pawl H² the distance of one tooth, so that on an entire revolution ten bushels of grain will have passed by the register.

The notches in front of two of its teeth, as at e e', fig. 4, are quite deep, to permit the pawl H² to, on engaging them, to enter also a notch in the middle wheel, or both the middle and upper wheel, as the case may be, and turn two, or all three wheels twice in succession.

The middle wheel F revolves on the arbor E¹, and registers every ten bushels passed by the apparatus, by means of a hand, F², attached to its hub F¹.

It also has twenty ratchet-teeth, and is provided with square notches f in front of every alternate one, and the notches in front of two of its teeth, as at f' f', fig. 5, are sufficiently deep to permit the pawl H² to engage at those points with the teeth of the upper wheel. It is of sufficiently less diameter than the wheel E that the operating pawl cannot engage its teeth except at the points e and e'.

The upper wheel G turns by a tubular hub on the hub of the middle wheel, and registers, by hundreds of bushels, by means of the hand G², fastened on its hub G¹. It also has twenty ratchet-teeth with square notches g in front of every alternate one, and is of such diameter that its teeth will be engaged by the pawl H² only when it enters both the deep cuts e or e', and f' or f' at the same time.

The cam-lever H is pivoted upon a bolt between ears secured on the outside of the box D, and may be further supported in a guide, h, as shown. It acts through a spring-bar, H¹, upon the pawl H², which is pivoted to the loose end of said bar, and kept to its work by a spring, h'.

The shape of the cam and the length of the spring bar must be so determined that each time the measure is pushed by, the pawl will be caused to turn the lower wheel the distance of one tooth.

The tendency of the spring bar is to keep the lever in the position shown in fig. 2.

The spring pawl H² is used in the ordinary manner to prevent the pawl H², as it is drawn back, to carry the wheel or wheels back with it.

I and I' represent spring pawls, which are used respectively to hold the wheels F and G in position with the square notches in which they engage. They are secured to a stud, i, and may be guided on and

between two other studs secured to the vertical flange of the plate D², in the manner shown.

The one I acts on the middle wheel, and is so formed and arranged with reference to a projecting stud, e², on the lower wheel that each time the pawl H² acts on the tooth directly in advance of the deep cut e in said wheel, said stud will push the pawl I out of the square notch, and hold it out until the wheel F has been partly revolved.

The stud then releases the pawl I, to permit it to enter the next square notch in the wheel F.

The pawl I, which acts on the upper wheel, is formed and arranged to be acted upon in a similar manner by a projecting stud, f², on the middle wheel each time the pawl H² enters the deep cut f¹ in the latter.

The loose end of the pawl I is in contact with that of I', so that both may be thrown out of gear at the

same time by a lever, K, to permit of turning the wheels separately, for the purpose of pointing all the hands to the figure 0, when a new lot of grain is to be measured and tallied.

What I claim as my invention, and desire to secure by Letters Patent, is--

The combination of the wheels E, F, and G, spring detents I and I', and projections e² on wheel E, and f² on wheel F, all constructed and arranged relatively to one another, substantially as set forth.

In testimony whereof I have signed my name to the foregoing specification in the presence of two subscribing witnesses.

WILLIAM Z. TAYLOR.

Witnesses:

J. R. KING,
WM. GARRETT.