(No Model.)

W. M. PERKINS.

GRAIN WEIGHING AND REGISTERING SCALE.

No. 343,844. Patented June 15, 1886.

Fig. 1.

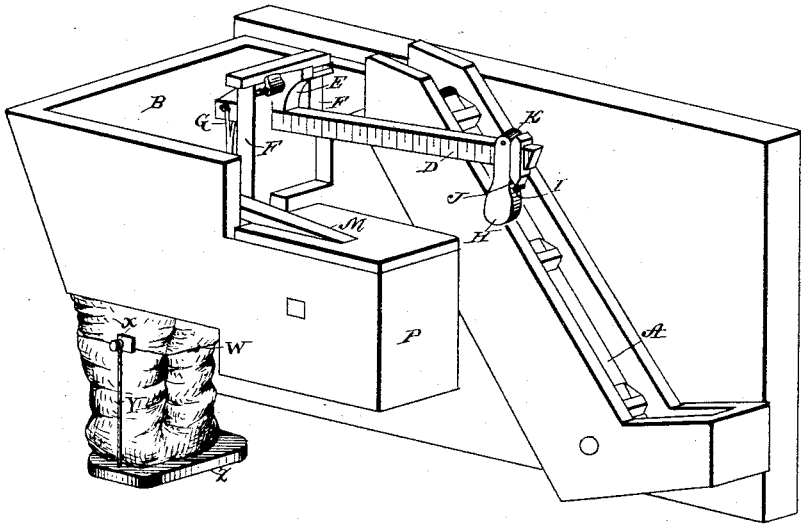


Fig. 2.

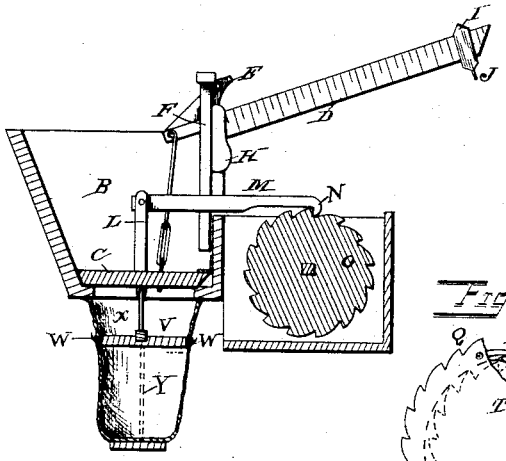


Fig. 3.

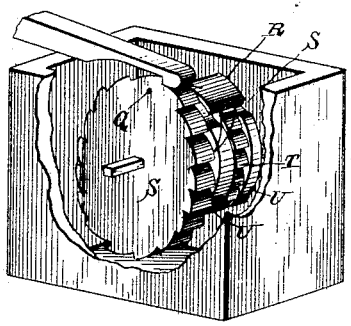
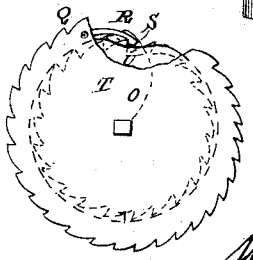


Fig. 4.



WITNESSES

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GRAIN WEIGHING AND REGISTERING SCALE.

SPECIFICATION forming part of Letters Patent No. 343,844, dated June 15, 1886.

Application filed February 9, 1886. Serial No. 191,312. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. PERKINS, a citizen of the United States, and a resident of La Fontaine, in the county of Wabash and State of Indiana, have invented certain new and useful Improvements in Grain Weighing and Registering Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of the side of a thrashing-machine provided with my improved grain weighing and registering attachment. Fig. 2 is a longitudinal vertical sectional view taken through the middle of the hopper. Fig. 3 is a perspective view of the registering device, showing portions of the casing broken away; and Fig. 4 is a plan view of the registering mechanism, with a portion of the outer wheel broken away.

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

My invention has relation to machines for weighing grain and for registering the quantity of grain weighed by the machine; and it consists in the improved construction and combination of parts of the same, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A indicates the elevator carrying the grain from the grain-discharging spout of the thrashing-machine to the hopper B, which is suitably supported upon the side of the thrashing-machine, and the bottom of the hopper is provided with a platform, C, hinged at one end to the side of the hopper and closing the open bottom of the hopper completely when down. A scale-beam, D, has an upwardly and rearwardly projecting oblique arm, E, at its forward end, and the outer end of this arm is pivoted between two uprights, F, upon the upper edge of the side of the hopper, at which the platform is hinged, the pivots of the arm being of any suitable construction used in the manufacture of scale-pivots. A rod, G, is pivoted to the forward end of the scale-beam and to the middle of the hinged platform, and a weight, H, or poise slides upon the scale-beam, which is suitably graduated and is prevented from sliding off from the beam and at the same time adjusted at its proper position upon the beam by means of a stop, I, sliding upon the beam and having a set-screw, J, for adjusting it. The poise is provided with a yoke straddling the beam, and the upper end of the yoke is provided with a roller, K, traveling upon the upper edge of the beam and facilitating the passage of the poise toward the fulcrum. An arm, L, projects upward from the hinged platform and is provided with a pawl-arm, M, pivoted to its upper end and having a downwardly-projecting forwardly-facing pawl, N, at its rear outer end. This pawl engages the periphery of a ratchet-wheel, O, journaled in a suitable casing, P, and provided with a suitable index or with numbers registering with the teeth of its periphery and with an aperture in the casing, or any other suitable means for showing the number of teeth which the wheel has been revolved, and this wheel has a laterally-projecting pin, Q, near its edge, upon which pin a pawl, R, is pivoted, having springs S bearing against its free end, forcing it down, and another ratchet-wheel, T, is journaled concentric with the first ratchet-wheel and has means for indicating the progress of its revolutions. This latter ratchet-wheel is journaled between two disks, U U, of a diameter slightly greater than the diameter of the ratchet-wheel, and the peripheries of the disks are cut away at registering places at the upper portions of the disks, allowing the pawl of the other ratchet-wheel to operate, which pawl slides with its free end upon the peripheries of the disks, and may engage one tooth of the ratchet-wheel each time it passes over the cut-away place, moving the ratchet-wheel the space of one tooth for each revolution of the first ratchet-wheel. A frame, V, having suitable hooks, W, for the attachment of the mouth of a bag, is suspended from the under side of the platform, and this frame and the lower edges of the sides of the funnel are connected by means of a flexible chute, X, which will admit of the frame being raised and lowered together with the platform, while at the same time the grain passing from the open lower end of the hop-

per may pass into the bag supported by the frame. Two rods, Y Y, are secured at their upper ends to the opposite sides of the frame, and have the ends of a board, Z, secured to their lower ends, which board will support the bag, removing some of the strain from the hooks upon the frame. When the stop upon the scale-beam has been set upon the beam to the point at which the weight or poise is when the desired weight of grain is filled in the bag, the bag may be hooked upon the frame with its lower end resting upon the board at the lower ends of the swinging rods, and the grain may be filled into the hopper, and will flow from the hopper through the chute into the bag, the platform being sufficiently raised by the weight of the poise to admit of the free passage of the grain. When the desired amount of grain has run into the sack, its weight overbalances the poise upon the scale-beam and causes the outer end of the beam to swing upward. This causes the poise to slide down the beam until it is under the fulcrum in the end of the rearwardly-projecting arm upon the beam. As the outer end of the poise is swung upward, the platform or trap-door of the hopper, which is secured to the inner end of the beam, is closed, so that no more grain can pass into the sack. The full sack is then removed and an empty one put in its place, and the poise slipped out on the beam until it reaches the adjusting-weight, which swings the outer end of the beam down until it is level and the inner end is swung up, which opens the trap-door in the hopper, and the grain is allowed to pass into the sack. By having the rearwardly-projecting piece upon the inner end of the beam, the poise is permitted to pass entirely off the outer end of the beam, and thus prevent it from opening the trap-door when the full sack has been removed, which it would otherwise do if the grain was not being delivered into the hopper fast enough to keep it shut when the weight of the full sack has been removed. The ratchet-arm will move the first ratchet-wheel the space of one tooth each time that a bag is full, and for each revolution of the first ratchet-wheel the second ratchet-wheel will be moved one tooth, so that the second wheel will register the revolutions of the first wheel, while the first wheel will register the number of bags filled.

It follows that this weighing apparatus may be used in grain-elevators, mills, or any other places where it is desired to weigh grain in certain quantities, besides in thrashing-machines, and the weighing portion of the apparatus may be used without the registering or tallying portion of the apparatus, as well as the registering apparatus may be used in conjunction with other weighing apparatus which have a tilting or rocking portion, to which the pawl may be secured; but the two devices together form a simple and efficient attachment for weighing and registering grain, which is not liable to get out of order, and which is of a simple and durable construction, admitting of its being used for a long space of time without any need of repairing or attention, and admitting of its being repaired or attended by persons only acquainted with the rudiments of mechanics and only provided with the simplest of tools, as all parts of the attachment are simple in construction and easily replaced, if damaged.

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

1. In a weighing and registering attachment, the combination of a tilting platform, a scale-beam having a rearwardly and upwardly projecting oblique arm and fulcrumed at the end of the said arm, a rod connecting the end of the beam having the arm and the platform, and a poise sliding upon the beam, as and for the purpose shown and set forth.

2. In a weighing and registering attachment, the combination of a hopper having an open lower end, a platform hinged at one edge at the lower end of the hopper within the hopper, closing the open end of the same, a sack-supporting frame suspended from the platform, a scale-beam having a rod extending from the upper side of the platform to the end of the beam, and a poise sliding upon the beam, as and for the purpose shown and set forth.

3. In a weighing and registering attachment, the combination of a hopper having its lower end open, a platform hinged to tilt upward in the open lower end of the hopper, closing it when depressed, a sack-supporting frame suspended from the platform, a scale-beam having a rearwardly and upwardly inclined arm at its forward end and fulcrumed at the end of the arm, a rod pivoted to the forward end of the scale-beam and to the upper side of the platform, an adjustable stop sliding upon the beam, and a poise having a yoke provided with a roller traveling upon the upper edge of the scale-beam, as and for the purpose shown and set forth.

4. In a weighing and registering machine, the combination of a hopper, a hinged platform tilting upward and suspended from the end of a scale-beam, a frame suspended from the platform below the same, and having means for supporting a sack, and a chute of flexible material secured to the lower edges of the hopper and to the frame, as and for the purpose shown and set forth.

5. In a grain weighing and registering machine, the combination of a receiving-hopper, a platform hinged to swing upward and closing the bottom of the hopper, a sack-supporting frame suspended from the platform, provided with a flexible chute secured to the frame and to the lower end of the hopper, and provided with hooks for securing a sack and with a board supported from rods below the frame, a scale-beam having a rearwardly and upwardly projecting oblique arm at its forward end

pivoted at the end of the arm, a rod connecting the platform and the forward end of the beam, a stop adjustable upon the beam, a sliding poise upon the beam, an upwardly-projecting arm upon the platform, a pawl-arm pivoted at its inner arm to the upper end of the said arm, and the ratchet-wheel of a registering device engaged by the pawl-arm, as and for the purpose shown and set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

WILLIAM M. PERKINS.

Witnesses:
NATHANIEL OWEN,
BARCLAY THORNE.