(No Model.)

D. E. KELLEY & H. D. PRATT.

AUTOMATIC GRAIN SCALE.

No. 354,423. Patented Dec. 14, 1886.

Fig. 1.

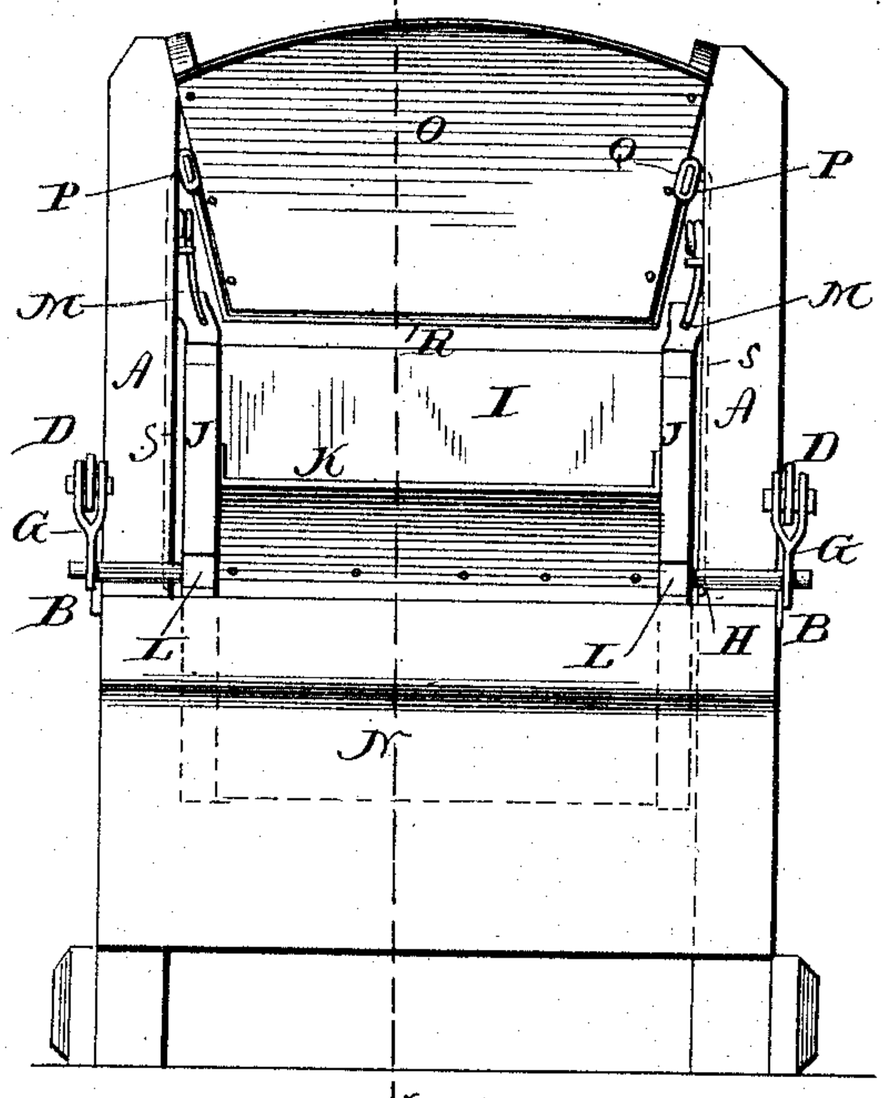


Fig. 2.

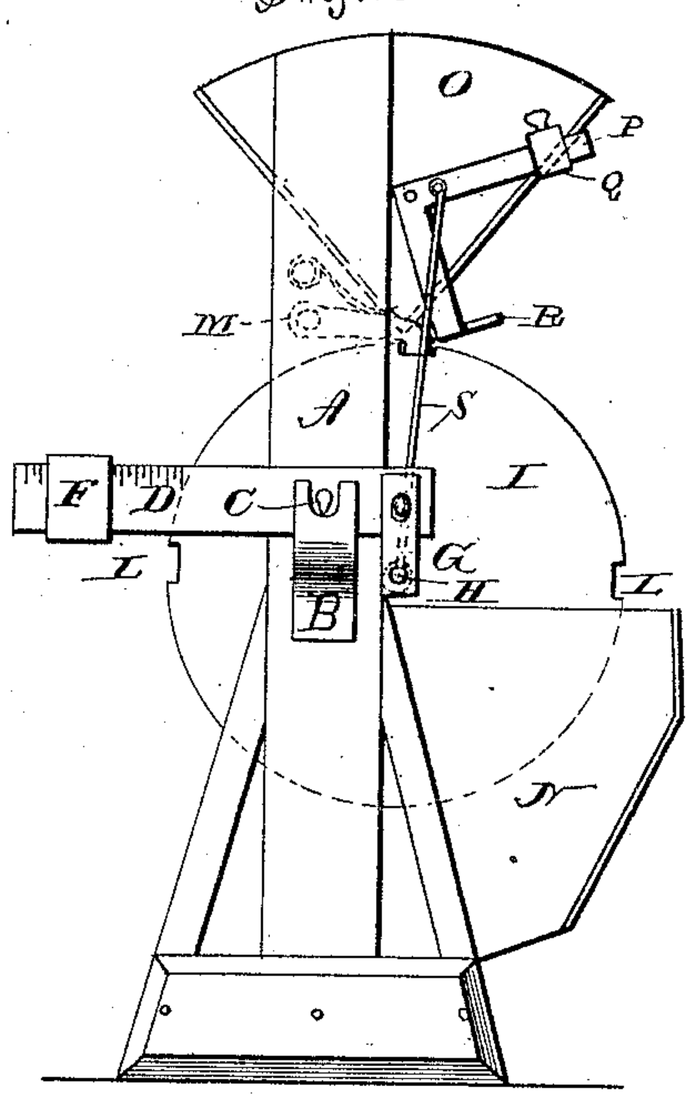


Fig. 3.

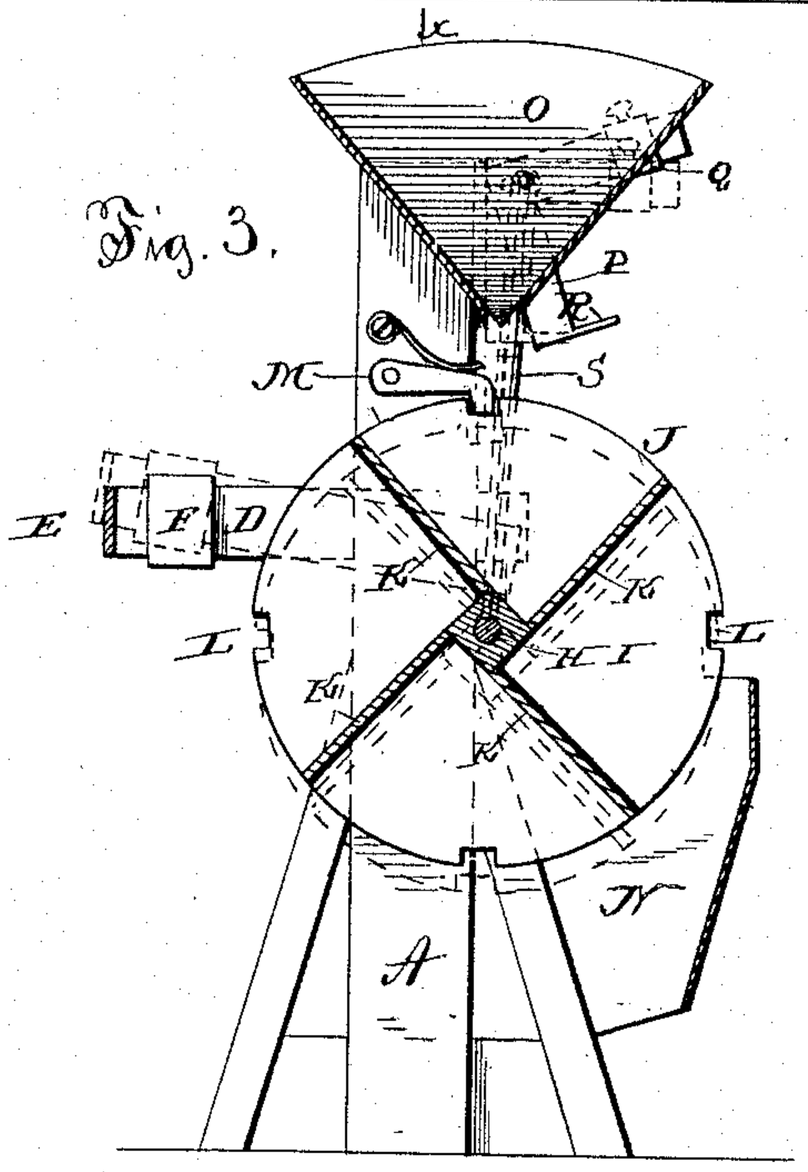
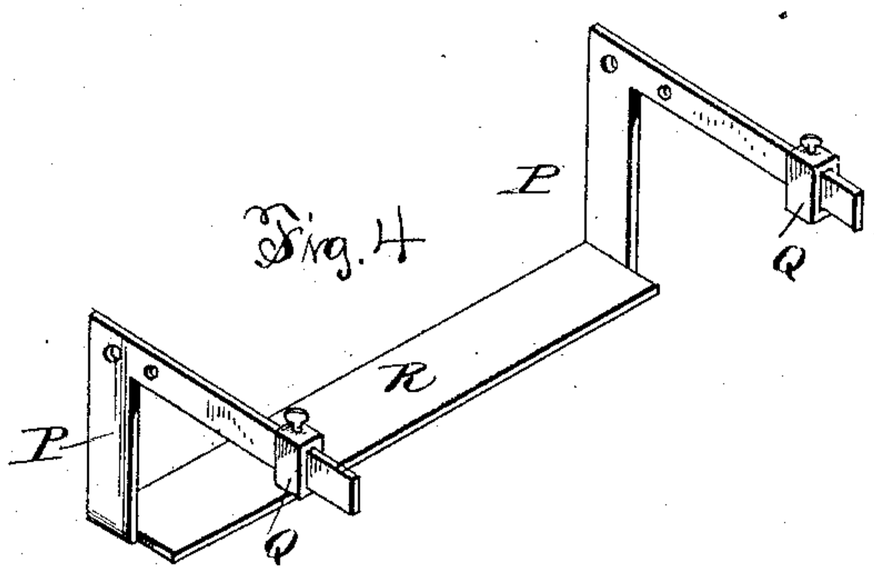


Fig. 4.



WITNESSES
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UNITED STATES PATENT OFFICE.

DANIEL E. KELLEY AND HARVEY D. PRATT, OF GAYLORD, KANSAS.

AUTOMATIC GRAIN-SCALE.

SPECIFICATION forming part of Letters Patent No. 354,423, dated December 14, 1886.

Application filed April 6, 1886. Serial No. 197,988. (No model.)

To all whom it may concern:

Be it known that we, DANIEL E. KELLEY and HARVEY D. PRATT, both residents of Gaylord, in the county of Smith and State of Kansas, have invented certain new and useful Improvements in Automatic Grain-Scales; and we 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 front view of our improved grain-weighing machine. Fig. 2 is an end view. Fig. 3 is a vertical sectional view on line *x x*, Fig. 1; and Fig. 4 is a perspective detail view of the cut-off mechanism for the hopper.

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

Our invention has relation to that class of automatic grain-scales in which the grain is fed from a suitable hopper into a cylinder having radiating partitions, and having its shaft journaled in the downwardly-pending ends of links pivoted to forward ends of scale-beams, and provided with slot-stops registering with the compartments and engaging a spring-pawl when the cylinder is raised by the poises upon the scale-beams; and it consists in the improved construction and combination of parts of such a scale or weighing-machine, as hereinafter more fully described and claimed.

In the accompanying drawings, the letters A A indicate the side pieces of the supporting-frame, and the outer sides of these side pieces are provided near their middles with bifurcated scale-bearings B B, in which the pivots C of the forwardly-projecting scale-beams D are pivoted, the said beams being connected at their rear ends by a cross-bar, E, and having sliding poises F upon their graduated portions.

Links G G are pivoted to the forward ends of the scale-beams and depend from the same, and a shaft, H, is journaled in the lower ends of these links, and has a cylinder, I, journaled upon it. This cylinder is formed by two circular heads, J J, to the inner sides of which the ends of partitions K are secured, the said partitions radiating from the sides or faces of a shaft across the middle, and dividing the cylinder into any desired number of compartments.

The periphery of one or both of the heads of the cylinder is provided with notches L, registering with the compartments, and a spring-pawl, M, is secured to the inner side of one or both of the side pieces of the frame, and may engage one or both of the notches upon the cylinder-heads, preventing the cylinder from revolving, when the poises upon the scale-beams overcome the weight of the cylinder and support it in its raised position.

The lower portion of the compartment-cylinder revolves in the upper portion of a spout, N, into which the grain may be discharged from the cylinder, and a hopper, O, is secured between the upper ends of the frame-pieces, having its spout immediately above the compartment of the cylinder, which may be pointing upward.

Two L-shaped levers, P P, are pivoted at their elbows to the ends of the hopper, and have outwardly-projecting arms provided with weights Q, and downwardly-projecting arms provided with a cut-off slide, R, secured to the lower ends of the said arms and sliding snugly under the end of the spout of the hopper.

The upper ends of upwardly-projecting rods S S are pivoted to the outwardly-projecting arms of the levers near the pivotal points, and these rods slide in vertical ways upon the inner sides of the frame-pieces, and are connected at their lower ends to the journal of the cylinder.

It will now be seen that when the grain passes from the hopper into the compartment facing the spout of the hopper the weight of the grain in this compartment will at last overcome the weight of the poises, which have been adjusted upon the scale-beams so as to be tipped at a certain weight, and when the cylinder is depressed by the weight of the grain in the compartment the notches upon the periphery of the heads which engage the spring-pawls upon the frame will be disengaged, allowing the cylinder to rotate and to discharge the contents of the compartment into the spout.

As the compartments are formed upon the sides of the middle shaft, the center of gravity of each compartment will be at that side when it is full, and as soon as it is released

from the engaging pawl it will rotate in that direction. As soon as it has rotated enough to permit any of the grain to escape, the weight of the poises will raise it against the pawls and cause them to engage with the next succeeding notch and prevent the cylinder from rotating too far.

When the cylinder is depressed, the rods attached to the journal of the cylinder will be allowed to move downward and allow the outwardly-projecting ends of the levers to tilt the cut-off slide before the spout of the hopper, cutting off the flow of grain, and when the cylinder again is raised the rods will raise the weighted arms and the slide will be tilted away from the spout, allowing the grain to flow into the compartment. In this manner the machine may automatically weigh the grain flowing from the hopper and dump each quantity, and by connecting a registering device to the weighing device the number of compartments emptied may be registered.

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

In automatic grain-scales of the described general construction, the cut-off mechanism consisting of the elbow-levers P, connected by the cut-off plate R, and provided with the adjustable weights Q, in combination with the connecting-rods S and cylinder I, suspended on the scale-beams, as set forth.

In testimony that we claim the foregoing as our own we have hereunto affixed our signatures in presence of two witnesses.

DANIEL E. KELLEY.
HARVEY D. PRATT.

Witnesses:
ROSCIUS HAGADORN,
GEO. R. PARKER.