

(No Model.)

J. A. MITCHELL.
GRAIN WEIGHING APPARATUS.

No. 342,261.

Patented May 18, 1886.

Fig. 1

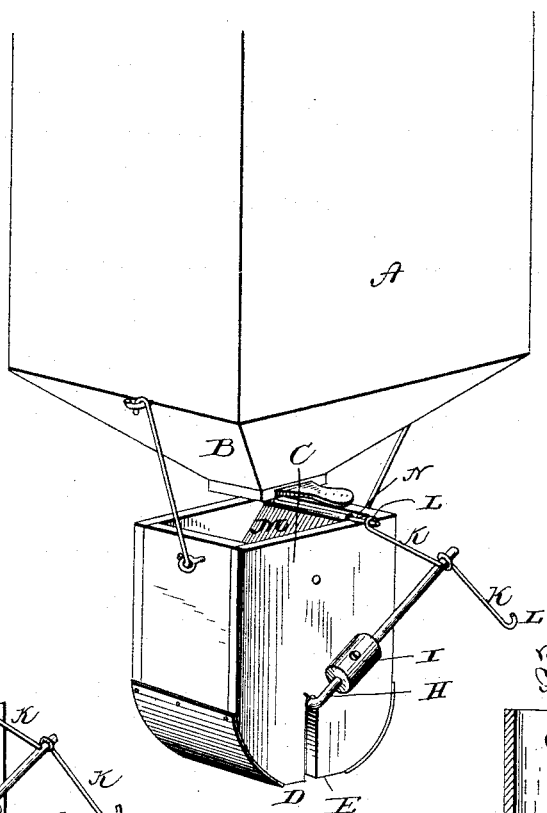


Fig. 2

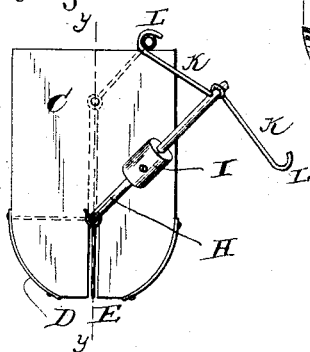


Fig. 3

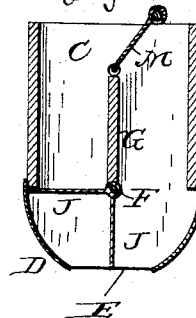
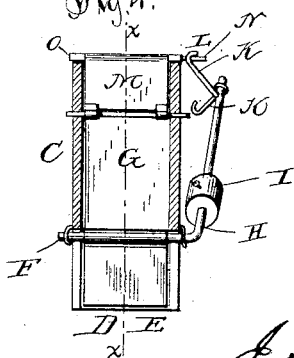


Fig. 4



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UNITED STATES PATENT OFFICE.

JOHN ADOLPHUS MITCHELL, OF WAPELLA, ILLINOIS, ASSIGNOR OF ONE-HALF TO ISAAC S. SWEARINGEN, OF SAME PLACE.

GRAIN-WEIGHING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 342,261, dated May 18, 1886.

Application filed January 29, 1886. Serial No. 190,170. (No model.)

To all whom it may concern:

Be it known that I, JOHN ADOLPHUS MITCHELL, a citizen of the United States, and a resident of Wapella, in the county of De Witt and State of Illinois, have invented certain new and useful Improvements in Grain-Weighing Apparatus; 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 a portion of a grain-elevator provided with my improved weighing apparatus. Fig. 2 is a front view of the apparatus. Fig. 3 is a vertical sectional view on line *x x*, Fig. 4, and Fig. 4 is a vertical section on line *y y*, Fig. 2.

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

My invention has relation to that class of weighing apparatus for grain-elevators and grain-chutes in which the weight of the grain will tilt the bottom of a receptacle, which will tilt a guide, directing the flow of grain to another similar receptacle; 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 upper portion or discharge portion of a grain-elevator, and B indicates the discharge-chute of the same; and this elevator and chute may be connected in any suitable manner to a thrashing-machine separator, or be used for unloading grain from a vehicle or vessel, the elevator and chute being in no manner material to the weighing apparatus, which may be secured to any elevator or discharge-chute. A casing, C, is suitably suspended under the discharge-chute, and is formed with a semi-cylindrical bottom, D, having an aperture, E, at its lowermost point. A shaft, F, is journaled in the front and rear sides of the casing, axially to the cylindrical bottom of the same, and at the lower end of a partition, G, and the forward end of this shaft is provided with an upwardly-pro-

jecting arm, H, having an adjustable weight or poise, I, sliding upon it and provided with a set-screw for adjusting it, and the arm is preferably graduated. Two wings, J J, are secured to the shaft, projecting at a right angle to each other from the shaft, and each wing filling up the bottom of the compartment formed by the partition, and bearing with its outer edge against the cylindrical bottom of the compartment and with its side edges against the sides of the compartment, and the wings are secured at an angle of one hundred and thirty-five degrees each to the upwardly-projecting scale-arm H. The upper end of the scale-arm is provided with two laterally-projecting arms or brackets, K K, projecting at right angles from the upper end of the arm, and having their outer ends bent upward or inward to form shoulders or stops L. A guide-plate, M, is hinged with its lower edge to the upper end of the partition, swinging within the upper portion of the casing, and the upper edge of this swinging guide-plate is provided with outwardly-projecting lugs N and O, resting against the upper edges of the front and rear side of the casing, and having the forward lug, N, engaged by one of the stops upon the brackets. It will now be seen that as the swinging plate is tilted to one side or the other it will cover the greatest portion of the upper end of one of the compartments, and will guide the grain emerging from the chute into the other compartment, and the bottom of this compartment will be closed by means of the wing, which will be tilted upward in the same by the scale-arm, which has the stop of the bracket at that side bearing against the lug of the swinging guide-plate. As, now, the grain fills the compartment up, the weight of the grain will force the wing down against the weight of the poise upon the scale-arm, which has been adjusted to be tilted at a certain weight in the compartment, and at last the weight of the grain will tilt the swinging wing straight downward, opening the lower end of that compartment and at the same time tilting the scale-arm, so that the other stop will strike the lug of the swinging guide-plate and tilt it so as to cover the now opened compartment and

to uncover the compartment which now has its bottom closed, and which is now ready to be filled. The grain, passing out through the bottom of the casing may either be filled in 5 bags or it may be emptied into a vehicle or vessel, and it will be seen that when the compartment has received the desired weight of grain, it will be automatically emptied and the other compartment filled, &c.

10 A suitable counting or recording device may be connected to the apparatus in a way such as to adapt it to be operated by one of the lugs projecting from the guide-plate M, as said plate is moved from one position of rest to the 15 other, or by the shaft F or the handle H, as the latter passes from its momentary vertical position to a position of rest.

Having thus described my invention, I claim and desire to secure by Letters Patent of the 20 United States—

1. In a grain-weighing apparatus, the combination of a casing having a partition, a shaft journaled to rock at the lower end of the partition and having wings closing the lower ends 25 of the compartments and projecting from the shaft at a right angle to each other, a scale-arm projecting upward from the end of the shaft and having a sliding adjustable poise and brackets projecting from its upper end 30 provided with stops at their ends, and a guide-plate hinged to the upper end of the

partition in the upper end of the casing and having a lug engaging the stops of the brackets, as and for the purpose shown and set forth.

2. In a grain-weighing apparatus, the combination of a casing having a semi-cylindrical 35 bottom provided with an aperture at its lowermost point and having a partition extending from the axis of the semi-cylindrical bottom to near its upper end, a shaft journaled to rock at 40 the lower end of the partition and having two wings projecting from it at a right angle to each other and closing the space between the curved bottom, and having a scale-arm projecting upward at equal angles to the two 45 wings from one end of the shaft, a poise sliding adjustably upon the said arm, brackets projecting at right angles from the upper end of the scale-arm and having stops at their ends, and a guide-plate hinged to the upper end of 50 the partition and having lugs at the ends of its upper edge, having the forward lug engaging the stops of the brackets, as and for the purpose shown and set forth.

In testimony that I claim the foregoing as my 55 own I have hereunto affixed my signature in presence of two witnesses.

JOHN ADOLPHUS MITCHELL.

Witnesses:

JOHN ROBERTS,
S. W. McMILLEN.