(No Model.)

A. E. WADE.

GRAIN WEIGHING APPARATUS.

No. 344,148. Patented June 22, 1886.

Fig. 1.

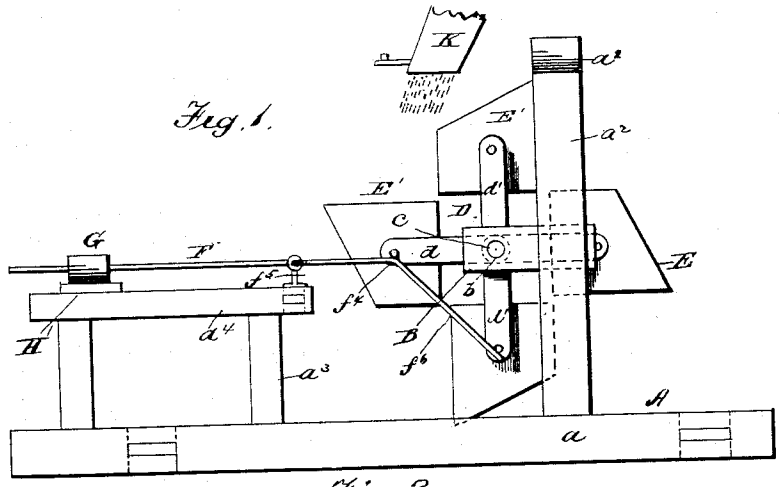


Fig. 2.

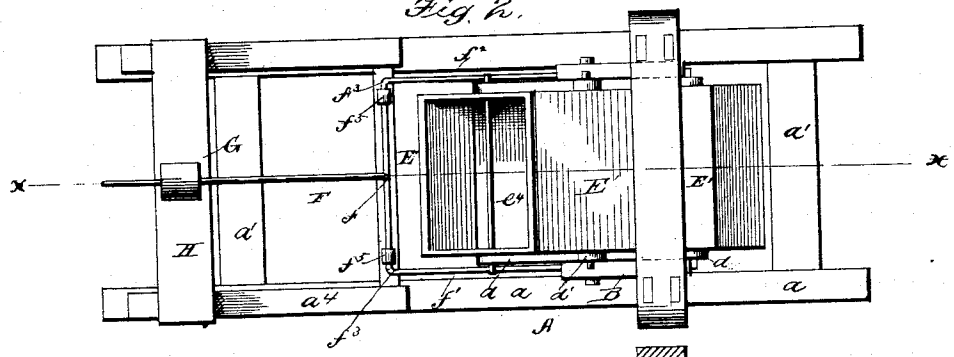


Fig. 4.

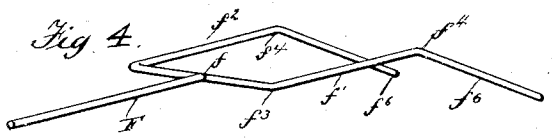


Fig. 3.

Witnesses

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ARTHUR ELLIOTT WADE, OF PARKVILLE, ILLINOIS.

GRAIN-WEIGHING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 344,148, dated June 22, 1886.

Application filed February 9, 1886 Serial No. 191,345. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR ELLIOTT WADE, a citizen of the United States, residing at Parkville, in the county of Champaign and State of Illinois, have invented a new and useful Improvement in Grain Weighing or Measuring Devices, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in grain weighing or measuring devices, and has for its object the provision of means whereby grain or similar material may be automatically and accurately divided into any predetermined similar quantities during its passage from its place of storage to receptacles placed beneath, without requiring any attention other than that of removing the latter-named receptacles when full.

To this end it consists in the construction, arrangement, and combination of the several parts for service, substantially as hereinafter described, and specifically pointed out in the claims.

Referring to the drawings, in which similar letters of reference denote similar parts, Figure 1 represents a side elevation of a grain-weighing device embodying my improvement. Fig. 2 is a top plan view thereof. Fig. 3 represents a longitudinal section on the line $x\ x$ of Fig. 2; and Fig. 4 is a detail perspective view of the scale-beam.

In the drawings, A designates the frame of the machine, comprising the sills or base-timbers a, connected together by transverse timbers a', upright timbers a^2, that support the grain-carrying tubs or boxes, and short uprights or studs a^3, that support horizontal timbers a^4, upon which is fulcrumed the scale-beam, as hereinafter described.

B designates short bearing-blocks secured to each of the uprights a^2, upon the inner surface thereof at points intermediate between the tops and bottoms thereof, as shown. The blocks B project a short distance beyond the forward faces of the uprights a^2 to afford bearings b for the journals c of an axle, C, mounted therein.

D designates the grain tub or box carrying arms, said arms consisting in suitable sized timbers, $d\ d'$, secured together at their middle and at right angles to each other, as shown, and mounted upon the axle C, at each end thereof, between the bearing-blocks B.

E′ designates the grain-carrying tubs, each of which is rigidly secured between each opposite pair, $d\ d'$, of the grain-carrying arms D.

E′ designates the grain-carrying tubs, consisting of ends e, bottom e', back e^2, and inclined front e^3, arranged as shown in the drawings. The tubs E′ are secured between each opposite pair of arms, $d\ d'$, of the tub-carrying arms D by rods e^4, that pass through said tubs from end to end thereof and through the outer ends of the arms $d\ d'$, beyond which the ends of the rods project for a short distance for a purpose to be described.

F designates a scale beam, the rearward part of which is bifurcated at the point f, the parts $f'\ f^2$ of which extend thence outwardly at right angles to the bar F to points f^3, at which points they are again bent parallel to the bar F, and extend rearwardly at each side of the tub-carrying arms and in the track of the projecting ends of the rods e^4. The parts $f'\ f^2$ of the bar F are from points f^4 bent downwardly in an inclined direction, as shown at f^6, for a purpose to be described hereinafter. The bar F is, between the points $f\ f^3$, fulcrumed or journaled in boxes or bearings f^5, which are secured upon a cross-bar connecting the timbers a^4 of the main frame A.

G designates a sliding weight mounted upon the bar F, said weight normally resting upon a cross-rail, H, that rests upon the timbers a^4, and is movable thereon by hand to any desired position for the purpose of supporting the weight of the scale-beam and limiting the downward movement of the said beam and weight.

The operation of my improvement is as follows: The weight G, being set to measure any desired quantity of grain, and one of the tubs E′ in position between the bifurcated arms $f'\ f^2$, and the ends of the rods e^4 outside of the arms d, resting upon the arms $f'\ f^2$ of the lever-bar F, as shown, the material to be measured is now permitted to pass from a spout, K, leading from the storage receptacle above to a point above the grain-tubs to the tub. When a sufficient quantity of grain to overbalance the weight G has entered the tub, the arms $f\ f'$ will descend, thus allowing

the outer ends of the rods e^4 to pass slowly down the inclined portion of said arms $f' f^2$ until the lowest points thereof are reached, at which time the material will be discharged from the tub. The bar F and arms $f' f^2$ will now return to their normal position to receive the next succeeding tub, which will repeat the operation described above.

If desired, the grain-spout may be provided at its lower end with a valve connected in any suitable manner to the arms d d', so as to be automatically opened or closed for or against the passage of material from said spout.

Modifications in detail of construction may be made in the herein-described invention without departing from the spirit or sacrificing the advantages thereof. I therefore claim the right to make any and all modifications as shall properly fall within the scope of said invention.

Having thus described my invention, I claim—

1. In a grain-measur ng device, the combination of the frame, the revoluble shaft journaled therein, and having the radial arms carrying the receptacles, each of which is provided at its sides with projecting-pins, and an oscillating scale-beam having the laterally-inclined arms normally arranged in the path of the pins of the rotating receptacles, substantially as described.

2. In a grain-measuring device, the combination of a main frame, a revoluble shaft journaled therein and carrying a series of receptacles, each having a pin at its side, and an oscillating scale-beam journaled on the frame and having the laterally-diverging arms arranged parallel with each other, and provided at its free end with an angular-inclined portion which lies on opposite sides of the receptacles and normally arranged in the path of movement of the pins thereof, substantially as described.

3. In a grain-measuring device, the combination of a main frame, having the uprights a^2 and the supplemental frame a^3 a^4, a revoluble shaft journaled in the uprights and having the radial supporting-arms rigidly secured thereto, the receptacles rigidly secured in the outer ends of the arms, and each provided with the transverse rod e^4, that passes through and beyond the same to form the projecting pins, an oscillating scale-beam journaled on the supplemental frame, and having the laterally-diverging arms arranged parallel with each other and provided with the downwardly-inclined ends, the weight G on the beam, and the cross-rail H for limiting the downward movement of the beam and the weight thereon, all arranged and combined substantially as described.

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

ARTHUR ELLIOTT WADE.

Witnesses:

C. E. HUFFMAN,

A. D. CUTTER.