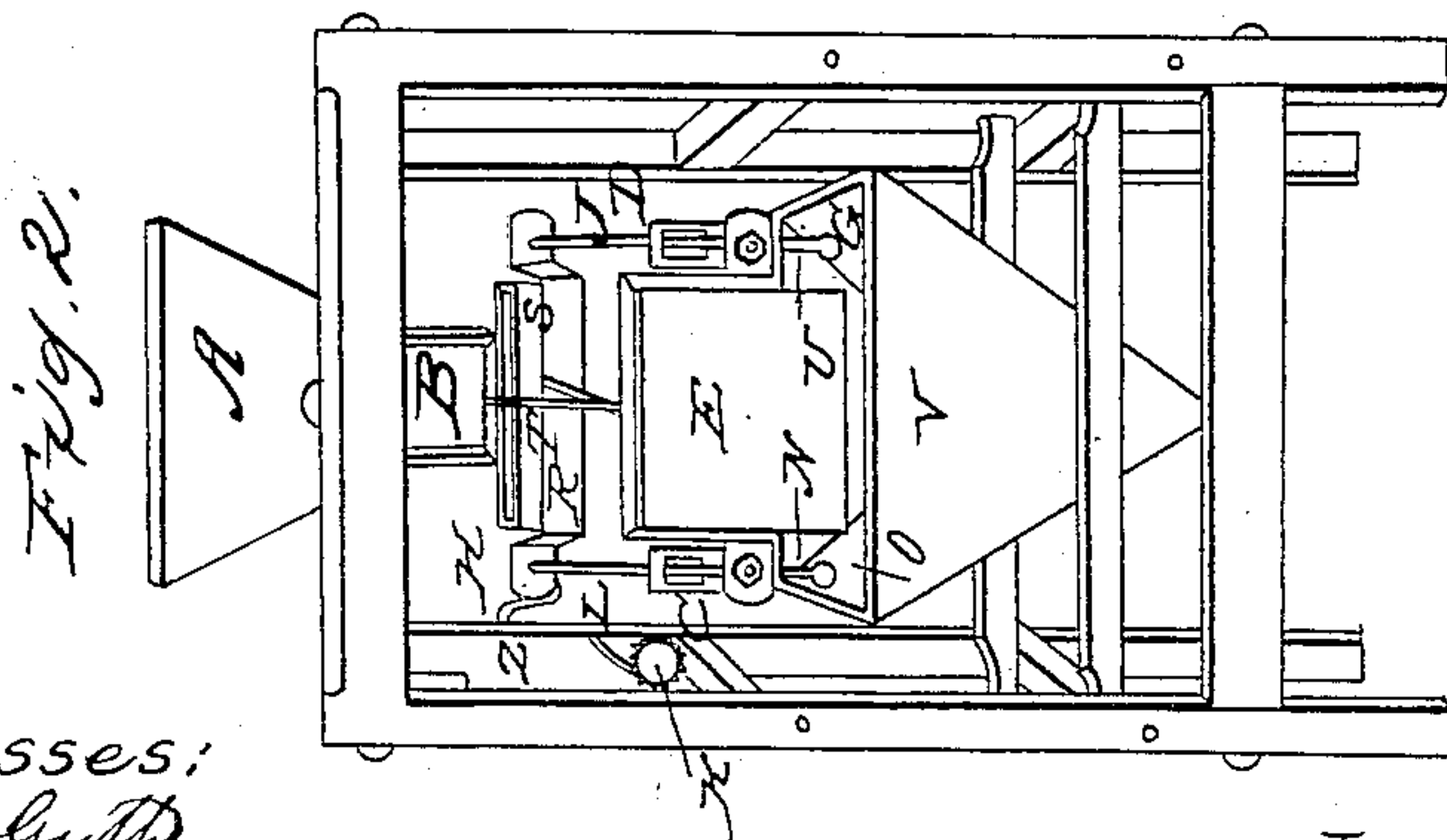
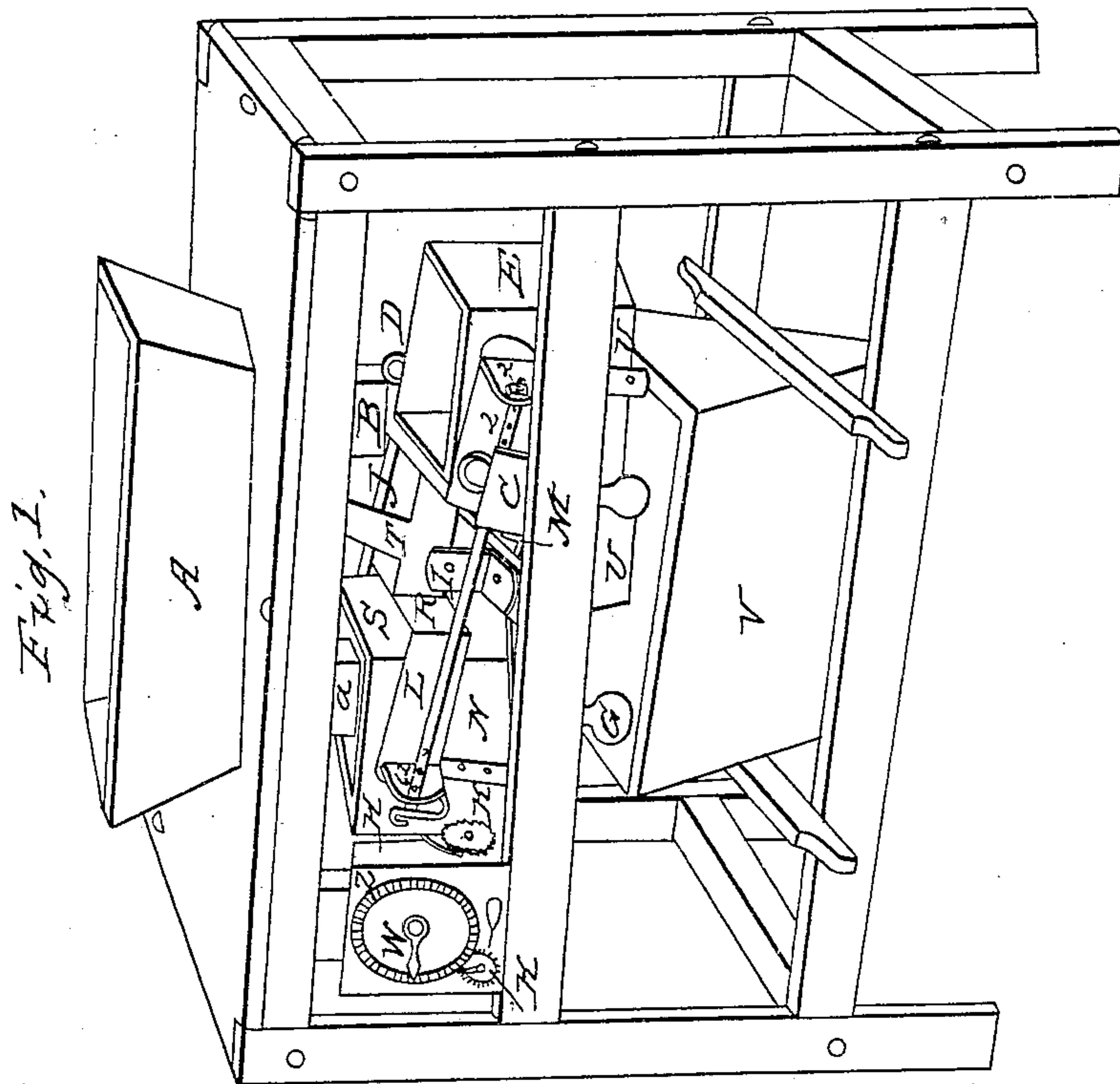


A. GUMMER.

Grain Scales.

No. 27,712.

Patented April 3, 1860.



Witnesses:  
Edward Guthrie  
James M. Dixon

Inventor:  
Albert Gummer

# UNITED STATES PATENT OFFICE.

ALBERT GUMMER, OF INDIANAPOLIS, INDIANA.

## AUTOMATIC GRAIN-SCALES.

Specification of Letters Patent No. 27,712, dated April 3, 1860.

*To all whom it may concern:*

Be it known that I, ALBERT GUMMER, of Indianapolis, in the county of Marion and State of Indiana, have invented a new and  
5 useful Improvement in Automatic Grain-Scales; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed  
10 drawings, making a part of this specification, in which—

Figure 1 is a perspective side view and Fig. 2 a perspective end view.

The nature of my invention consists in  
15 using two boxes instead of one as found in other machines, with which I am acquainted, thereby saving much time in its operation, and in a provision for checking the sliding weight when passing from one side to the  
20 other without affecting its weighing quality, the want of which in other machines is an impediment to their successful working; also in a provision for hinging the bottoms of the boxes, an entirely new method by which the  
25 number of bushels weighed are registered.

My machine is substantially different from all others which have been patented, inasmuch as they have but one box, and possess no means for checking the descending  
30 weight, which when there is nothing to counterbalance it, naturally comes down with much force. Also in respect to the bottoms of the boxes which open to discharge the grain, my device differs from any other,  
35 as I place my hinge of said bottoms two thirds from the side which opens to discharge the grain, and one third from the back side of the bottom, while in others the hinge is carried three thirds or the whole  
40 distance from the opening side and hung as a common box lid, thus requiring an extended balance weight or its equivalent to bring the whole weight of the bottom up again after being forced down by the passing  
45 out of the grain.

The grain is put into the hopper A, A. From there it passes through the spout B, B into the box E, E, which when full descends until a catch fastened on that side of the  
50 box nearest the center of the frame, comes in contact with the part (v) Fig. 1, when the catch is pulled out from the side of the box, and by this means the bottom is permitted to fall down on one side while the other side  
55 rises, a thing consequent upon the novel way of hinging the said bottom previously

described, and by this means the grain gradually passes from the box E, E into the hopper V, V from thence to any point desired.

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

I construct my machine with a frame of rectangular shape as seen at Figs. 1 and 2. 35 On the top of this is the hopper A, A, into which the grain is conducted. From thence it passes through the spout B, B into the box E, E, which when full descends to empty itself through the bottom into the  
70 hopper V, V, from thence to any desired point.

T, T is a central and vertical stem running through and working a horizontal slide valve which closes the passage in one spout 75 B, B, while it opens it in the spout (a) Fig. 1, alternating with the beam or the rise and fall of the boxes E, E and S, S.

R, R is a double ended beam working on its axis I, Fig. 1, and with a box hung at 80 each end, as shown at E, E and S, S. The box S, S is supposed to have ascended, and is now filling while the opposite one has descended, and is being discharged in order to rise again as soon as the weight of grain 85 in the box S, S equals the two weights C, C and D, D, and so on until it is purposely stopped.

L, L and J J are two rods or bars extending lengthwise of the machine, and passing 90 through the projecting ears (e, e) forming a part of each end of the beam R, R. These rods or bars support the two weights C, C and D, D in their passage forward and back in accordance with the rise and fall of the 95 boxes E, E and S, S, and which are stopped by means of perforated holes as represented into which pins are inserted to regulate the distance and run of the weights from the center or fulcrum, according to the number 100 of pounds required to be weighed.

M, M and N are inclined planes fastened to and under the cross piece which supports the beam resting on its axis I, Fig. 1. These planes are designed to check the weights 105 C, C and D, D in their descent, so as not to allow them to come in immediate contact with the graduated points (2, 2) in the rod L, L to prevent the detriment which would ensue by the shock in that case, it must pro- 110 duce. It extends on each side of the cross piece supporting the beam R, R, as shown



at M, M and N, as far as the weight C, C is supposed to run, and when the box E, E is down, as shown in the accompanying drawings, the plane M, M runs parallel with  
 5 the rod L, L, and as the beam R, R is reversed the plane N (Fig. 1.) then becomes parallel with the rod L, L. These planes are adjustable by each one forming two parts on each side of the cross piece supporting the  
 10 beam R R under the fulcrum or center of the said beam R, R. The planes M, M and N are composed of three parts. The under part is stationary, and extending the length of that part of the rod L, L found between  
 15 the ears (*e e*) through which it passes. The parts on the top of this piece, are loose pieces, and are adjustable by being hung at the ends nearest the center of the machine to the stationary piece by a hinge, leaving  
 20 the other ends free to be thrown up or down at pleasure by means of thumbscrews O, O, which pass through the stationary part spoken of, and a nut or screw thread is cut in the stationary part, enabling me to stop  
 25 or regulate the falling weight with exactness.

U, U is a hinge of the bottom of the box, by which it is relieved of its contents. In this arrangement the hinge is placed two  
 30 thirds from the opening side of the box or the side to which the catch is fastened which holds up the bottom, and one third from the opposite side, and thus by attaching but

a small weight as a counterbalance on the one third part of the bottom an extension 35 weight is dispensed with.

Z, Z is a register whose interior parts consist only of a common worm wheel and screw working into each other at the periphery of the wheel. On the end of the screw 40 is fastened the ratchet wheel K, K, which is moved one notch at every descent of the catch H, H attached to the beam R, R, and one revolution of the ratchet wheel K, K moves the index hand W (Fig. 1.) one point 45 farther around, and one revolution of the index hand W, moves the index wheel X, one point farther around, thus being capable of registering any number of bushels that may be required. The points spoken of are 50 those marks described on the circle on the face of the register, and the horizontal point described below them which is the starting point for the index wheel X.

What I claim as my invention and desire 55 to secure by Letters Patent is—

The arrangement of the double-box beam, with its vertical stem T, T for moving the horizontal slide valve, the two side rods L, L and J, J with their sliding weights C, C 60 and D, D, and the inclined planes M, M and N, for checking the said weights as described.

ALBERT GUMMER.

Witnesses:

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