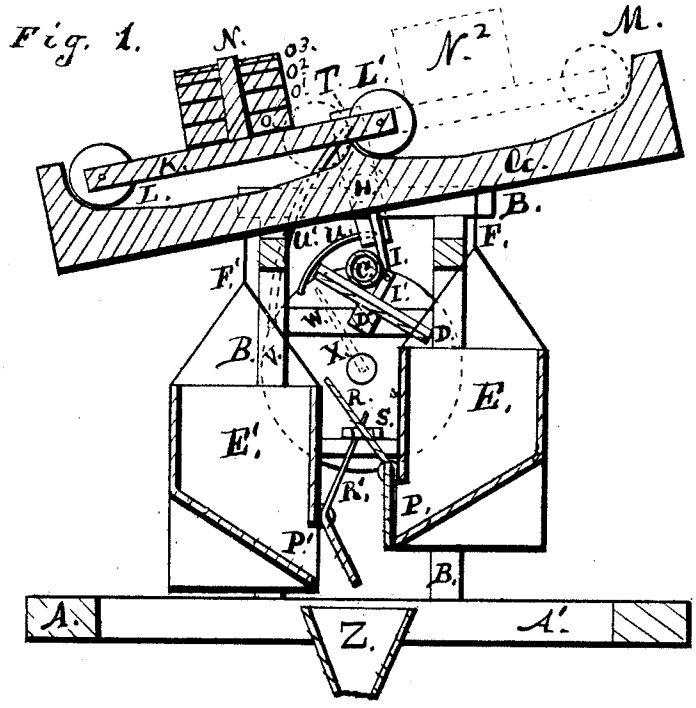
J. HEMINGWAY.

Grain-Meters.

No. 148,120. Patented March 3, 1874.

Fig. 1.



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UNITED STATES PATENT OFFICE.

JOSIAH HEMINGWAY, OF BURNSIDE, ILLINOIS.

IMPROVEMENT IN GRAIN-METERS.

Specification forming part of Letters Patent No. **148,120**, dated March 3, 1874; application filed May 23, 1873.

To all whom it may concern:

Be it known that I, JOSIAH HEMINGWAY, of Burnside, State of Illinois, have invented an Improvement in Grain Delivering and Weighing Apparatus, of which the following is a specification:

The object of this invention is to take the place of a portion of the grain-delivery apparatus in thrashing-machines, warehouses, mills, elevators, &c., and weigh the grain as it passes through it, keeping count of the amount either in hundred-weights or in bushels of any adjustable weight.

The apparatus is made as set forth herein and shown in the drawings.

Figure 1 is a vertical section of the apparatus.

The main frame A B bears all the operating parts. The grain passes in a stream down a spout, C, from whatever source it is received, and falls onto a tilting spout, D, which directs the grain into a weighing-box, E, which is hung by a connection, F, to a tilting beam, G. This beam G is held by a rocking cross-beam, H, having bearings on its ends in the frame B. A second box, E′, on the opposite side is in like way hung from the other end of beam G to balance-box E. On the top of beam G is car K, arranged to run on beam G by wheels L L′ at its ends, arranged to run along the beam from the position shown to the position where wheel L would be at end M, and wheel L′ at the center, instead of at the other end. The track part of beam G is cut in a descending curve each way from the center toward the ends, rising at the ends, as shown. The object of this is to have the wheels at each end of the car K, when they stand one in the center and the other at one end, to stand almost on a balance, ready, when the weight of grain in the box E becomes sufficient to balance the weight of the car K, and begins to draw down the beam G and raise the car, to start the wheels to running toward the opposite end of beam G. This is for the special purpose of making the act of turning the scale quick and prompt, and avoid the slowness of action when the top of the beam is straight, which leads to error. From the lower side of the beam G, in the center, projects an arm, I, which moves back and forth as the rock-shaft H turns in rocking. This engages with a short arm, I′, on a rocking cross-shaft, D′, so as to turn shaft D′ back and forth. This shaft bears the spout D, so arranged that the tilting of beam G rocks shaft D′ and turns spout D, so as to turn the grain from box E to box E′, and the whole is arranged so that when the box E is full enough to balance car K, the car will run to the other end of beam G, the beam G will tilt, and the box E descend, while the grain is cut off and turned into box E. The car K has at each end, or in the center, a pin, N, projecting upward to receive weights O O^1 O^2 O^3, to balance the weights of grain to be taken into the boxes. This may be either one hundred pounds, or the weight of a bushel of any kind of grain, or in such ratio. The weights are made in parts, so more or less can be used to adjust them to the weights per bushel of the various grains. The bottom of the boxes E E′ are made inclined to one of their sides, when each box has a discharge-hole, P P′, closed by swinging gates hung by their upper edges. To these gates are fixed rods R R′, which pass freely lengthwise through bearings in a fixed part, S, the whole so arranged that when the box is raised in the position E for receiving grain, the rod R will hold the gate closed tight over opening P, and so that when the box is heavy enough and goes down it opens gate P′, so the grain is freely discharged into any suitable receiver below, leaving the box ready to rise again and be closed when box E′ is full. The end of cross part H bears a lever, T, extending up and down from it. This bears pivoted in its ends the ends of swinging arms U U′, which have hooks on their lower ends. These hooks engage with the teeth of a wheel, V, so that the tilting of the beam G back and forth will rotate this wheel half the space of each tooth for each box of grain discharged. In front of wheel V is a dial-face, W, covering the wheel, and bearing around it suitable figures, so an index-pointer, X, from the shaft of wheel V will turn over it and point out the number of discharges made, registering continuously.

I claim—

1. The combination of the tilting beam G, with downward curves from the center toward each

end, the weighted car K, grain-box E, and a registering apparatus, substantially as set forth.

2. The combination, in a grain-weighing apparatus, of the double-curved tilting beam and the adjustable weighted car K to run thereon, to facilitate the quick action of the cut-off when the weight is just counterpoised, and to enable bushels of any weight to be weighed, as set forth.

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Witnesses:

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