(No Model.)

H. M. FULWIDER.

AUTOMATIC GRAIN WEIGHER.

No. 490,957. Patented Jan. 31, 1893.

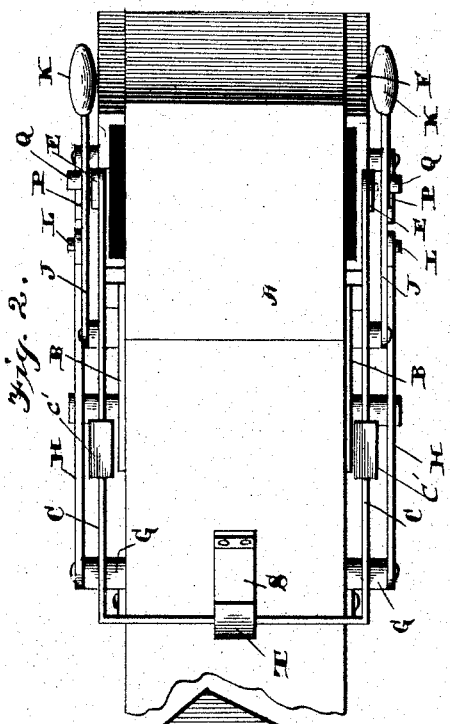

Fig. 2.

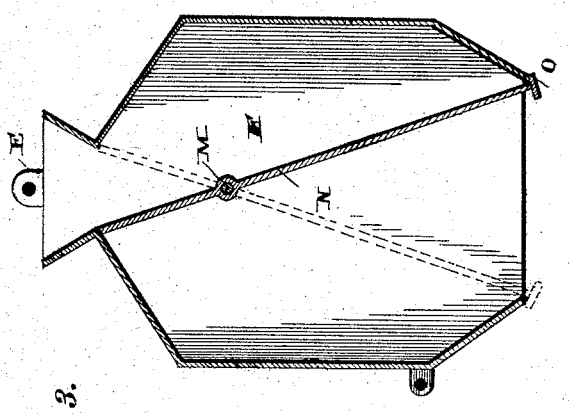

Fig. 3.

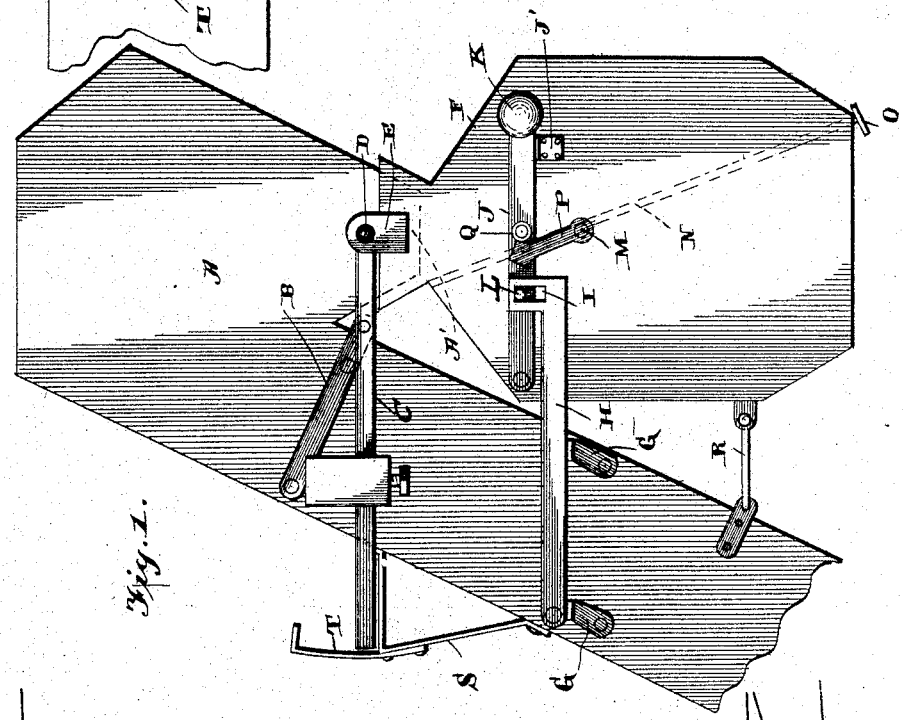

Fig. 1.

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HORACE M. FULWIDER, OF REDMON, ILLINOIS.

AUTOMATIC GRAIN-WEIGHER.

SPECIFICATION forming part of Letters Patent No. 490,957, dated January 31, 1893.

Application filed October 10, 1892. Serial No. 448,427. (No model.)

To all whom it may concern:

Be it known that I, HORACE M. FULWIDER, of Redmon, in the county of Edgar and State of Illinois, have invented certain new and useful Improvements in Automatic Grain-Weighers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in automatic grain weighers; and it consists in the novel combination and arrangement of parts which will be fully described hereinafter, and more particularly referred to in the claims.

The object of my invention is to provide an improved mechanism which will automatically weigh grain while running from a bin or elevator without interrupting its continuous flow.

Referring to the accompanying drawings,—Figure 1 is a side elevation of my improved weigher. Fig. 2 is a plan view. Fig. 3, is a vertical sectional view of the weigher box.

A, designates the upper end of an elevator into which grain is being carried from a separator or other source and secured to opposite sides thereof are the straps B, having projecting ends as shown. Fulcrumed on these straps is the graduated scale beam or yoke C, the rear end of the last mentioned device extending around the rear portion of the elevator and around on the opposite side as shown in Fig. 2, thus forming the yoke above mentioned. On the free ends of this yoke are the knife edge bearings D and supported thereon by means of the straps E, is the weigher box F, the latter being held by the said yoke ends immediately under the discharge A′, of elevator A, as shown.

Supported by and secured to brackets G, on opposite sides of the elevator A, are the arms H, which extend on opposite sides of the box F and formed in their outer ends are the eyes I.

J, represents bars which are pivotally secured at their ends to the inner edges of the sides of the box F, and which extend outward toward the outer edges of the box and supported by these outer ends are the weights K. Projecting outward from the bars J, are the pins L, which extend into the openings or eyes I, in the outer ends of the arms H.

Extending across the transverse center line of the interior of the box F, is the axial rod M, on which is mounted the movable partition N. This partition is of sufficient length to extend from one side of the top opening of the box to the opposite side of the bottom opening as shown in Fig. 3. Secured to the lower end of this partition is the narrow horizontal plate O, which effectually closes the lower end of the apartment in which the grain happens to be flowing, as shown.

To the outer projected ends of the axial rod M, are secured the vertically extending pointed arms P, which are in line with the partition within. Secured to the bars J, in a vertical line with the axle M, are the rollers Q. The outer free ends of the bars J, are supported on brackets J′. The lower end of the box F, is loosely connected to the elevator by the link R, which constitutes a brace for the same.

S, designates a bracket secured to the edge of the elevator A, for supporting the end of the yoke C. Projecting vertically from this bracket is the hook arm T, which prevents the yoke from moving too far vertically. The weights C′, may be moved freely on the beam ends of the yoke C, and thus predetermine the amount of grain to be weighed at a time in the box F.

The mechanical construction of my improved weigher having thus been made known I will proceed to describe its operation. The partition N, is set at all times to confine the inflowing grain in either one side or the other of the box. The device being adjusted to weigh a given amount, the grain is allowed to issue from the discharge A′, of the elevator A, into the box F. When sufficient grain has been run into the box to overcome the weights on the weighing yoke or beams C, the latter begin to rise while the box F, descends. The bars J, move bodily with the box until the pins L, carried thereby reach the bottoms of the eyes I, in the outer ends of the arms H. A fulcrum point is thus formed, the pivoted

ends of the said bars continuing the downward movement with the box while their weighted outer ends ascend. This movement continues until the rollers Q, against which the arms P, bear, are raised above the said arms, releasing the latter and allowing them to yield to the pressure of the grain on the lower portion of the partition N. The latter is thus shifted to the opposite side of the box with the arms P, on the opposite sides of the rollers Q. The weights K, on the outer ends of the arms J, bear the latter down and with them the rollers Q, on the sides of the arms P. From this description it will be seen that the rollers Q, and the arms P, constitute the locking mechanism, while the arms H, with eyes I, together with the projecting pins L, on the bars J, constitute the trip.

By this very simple mechanism which is thoroughly automatic in its operation it will be seen that the weighing can be done without stopping for a moment the flow of grain from the elevator.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is,—

1. The combination of a support, scale beams fulcrumed thereto, a weigher box supported by the beams an axial rod extending through the box, a shifting partition secured thereto, arms secured to the outer ends of the said rod, bars pivoted to one side of the box center, stops projecting from the bars which are adapted to engage either one side or the other of the said arms, and a tripping mechanism which operates the said bars, substantially as shown and described.

2. The combination of a support, scale beams fulcrumed thereto, a weigher box supported by the said beams, an axial rod extending therethrough, a partition on said rod, arms secured to the projected ends of the rod, bars pivoted to one side of the box center, stops on the bars which engage the said arms, and arms extending from the support which engage the same bars, substantially as shown and described.

3. The combination of an elevator, scale beams fulcrumed thereto, a weigher box supported by the beams beneath the discharge of the elevator, a shifting partition within the box, an axial rod upon which said partition is mounted having extended ends, arms secured to said ends which extend in line with the partition, bars pivoted at their ends to one side of the box and which extend across the same being weighted at their opposite free ends, rollers secured to the said bars in a vertical line with the axial rod and which engage said arms, stops L, projecting from the bars, and arms H, projecting from the elevator having eyes in their outer ends into which the said stops project, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

HORACE M. FULWIDER.

Witnesses:

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