

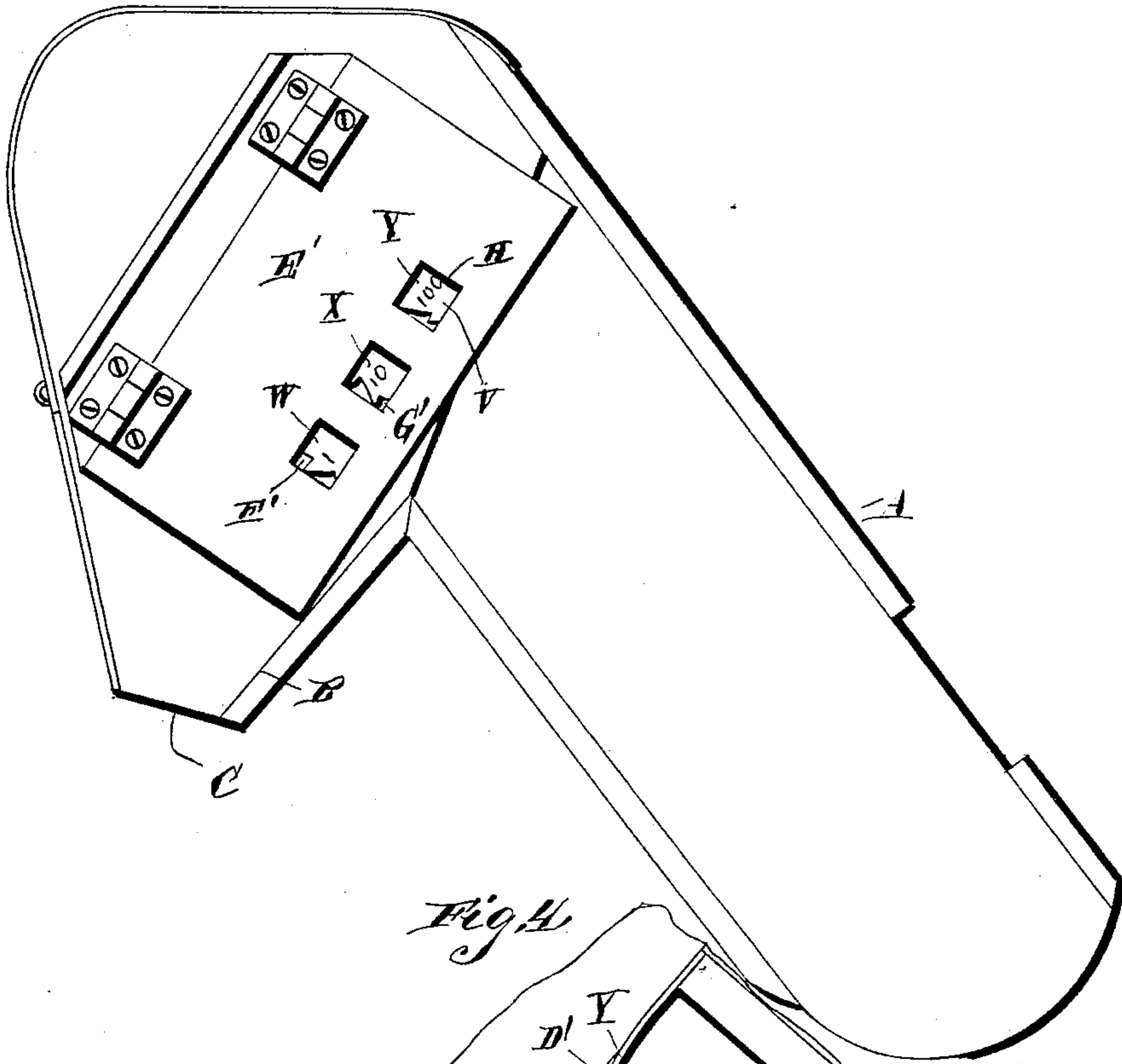
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AUTOMATIC GRAIN WEIGHER.

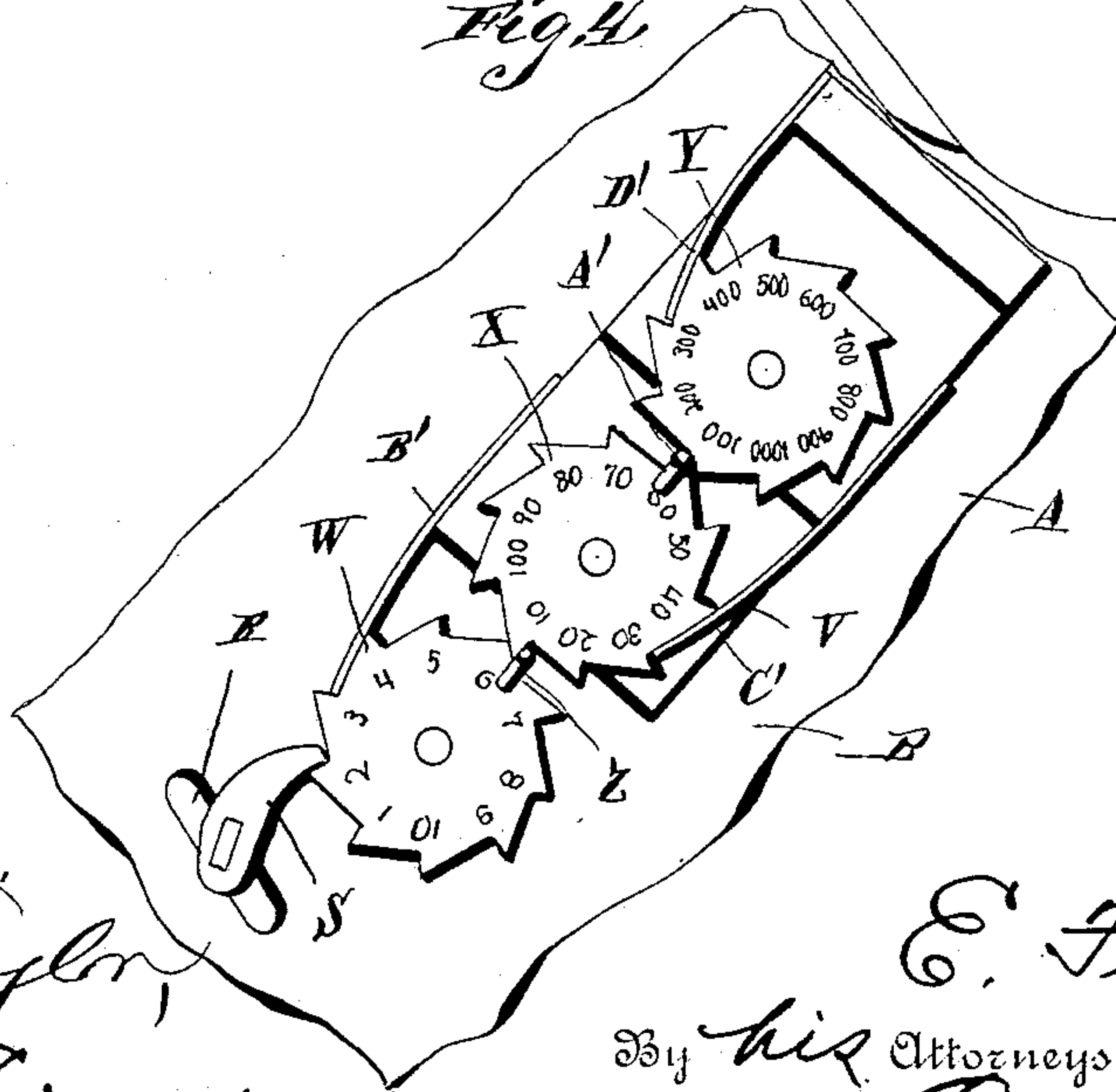
No. 391,888.

Patented Oct. 30, 1888.

*Fig. 1*



*Fig. 2*



Witnesses,

*C. Taylor,*  
*E. Siggus,*

Inventor,

*E. Fiscus,*

By *his* Attorneys

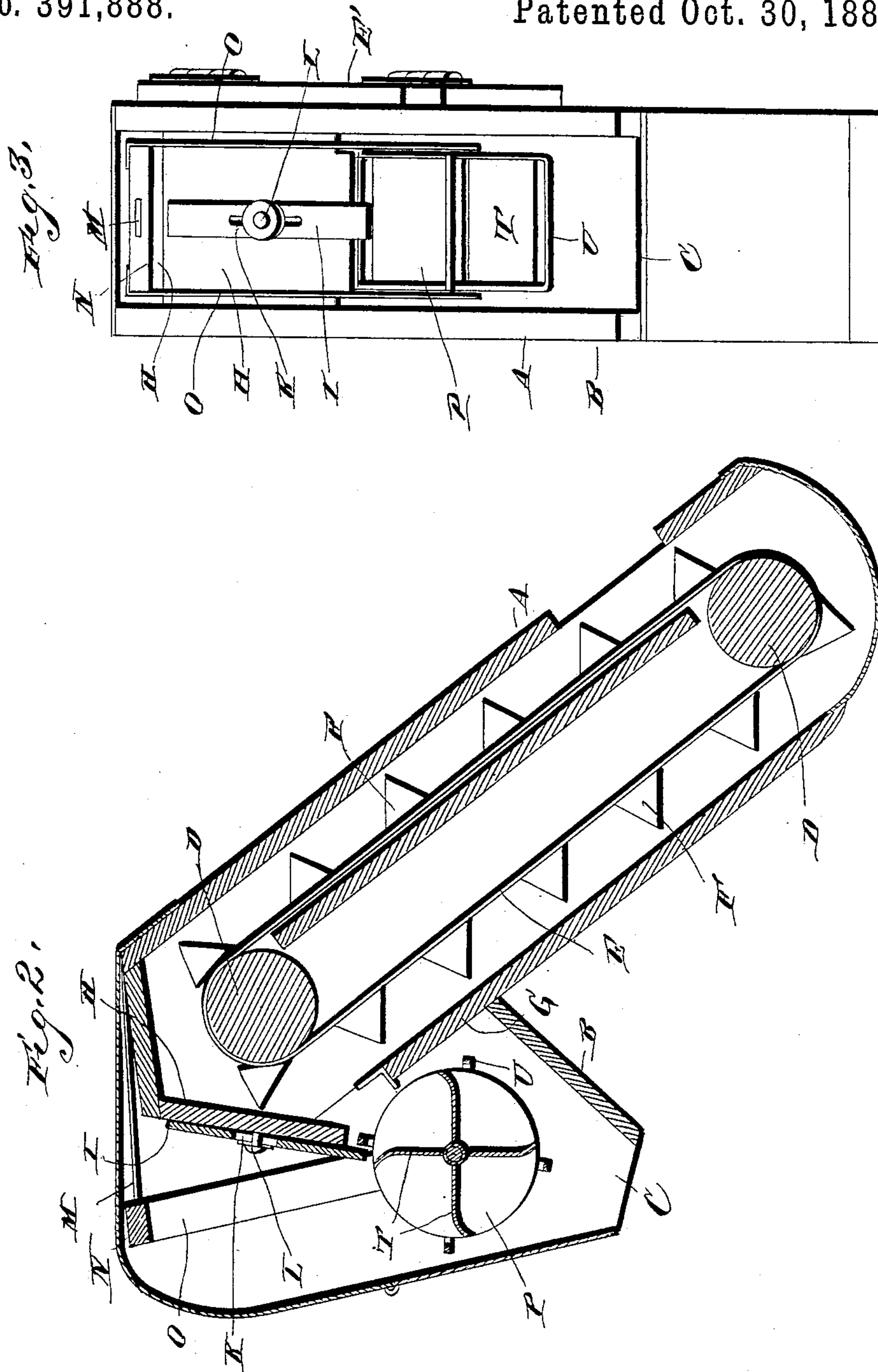
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# UNITED STATES PATENT OFFICE.

ELIAS FISCUS, OF AUDUBON, IOWA.

## AUTOMATIC GRAIN-WEIGHER.

SPECIFICATION forming part of Letters Patent No. 391,888, dated October 30, 1888.

Application filed June 22, 1888. Serial No. 277,916. (No model.)

*To all whom it may concern:*

Be it known that I, ELIAS FISCUS, a citizen of the United States, residing at Audubon, in the county of Audubon and State of Iowa, have invented a new and useful Improvement in Automatic Grain-Weighers, of which the following is a specification.

My invention relates to an improvement in automatic grain-weighers; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a grain-elevator provided with an automatic grain-weighing mechanism embodying my improvement. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is an end elevation of the same, a portion of the inclosing-case being removed. Fig. 4 is a detail view of the registering device.

A represents an inclined endless elevator of the usual construction, at the upper end of which is arranged a discharge-case, B, having a discharge-opening, C, at its lower end. The usual rollers, D, are journaled in the upper and lower end of the elevator-frame, and are connected by the usual endless belt, E, on the outer side of which is secured a series of elevating-buckets, F.

G represents a deflecting-shield, which is arranged transversely under the upper end of the endless elevator, and on which the grain falls as it is discharged from the elevator. At a suitable distance from the upper end of the elevator is arranged an inclined partition, H, on the front side of which is secured a detent-bar, I, said bar being arranged in a vertical position, provided at its center with a vertical slot, K, and having a clamping screw or bolt, L, which passes through the said slot and enters the board H. The function of the said clamping screw or bolt is to secure the detent-bar I at any desired vertical adjustment.

M represents a spring-arm, which has one end secured in the upper portion of the elevator-frame. The free end of said arm extends over the partition-board H, and is provided with a cross-bar, N, from which depends a pair of straps, O.

P represents a grain-wheel, which is journaled in the lower ends of the straps O, and has

one end of its axle extended through a vertical slot, R, in one side of the case B, and provided with an arm, S. The grain-wheel is cylindrical in shape and is provided with a number of longitudinal radial compartments, T, and said grain-wheel is further provided with a series of stop-bars, U, which connect the heads or ends of the grain-wheel and are arranged in proximity to the partition-plates which separate the compartments thereof. The spring M normally raises the grain-wheel, so that one of the stop-bars U thereof will be caused to engage the lower end of the detent rod or bar I, and thereby prevent the grain-wheel from rotating.

V represents a registering mechanism, which is arranged on one side of the case B. The registering mechanism comprises a units-wheel, W, which is provided with ten ratchet-teeth, which are numbered 0 to 9, a tens-wheel, X, which is provided with similar ratchet-teeth numbered consecutively from 10 to 100, and a hundredths-wheel, Y, which is also provided with the same number of ratchet-teeth numbered from 100 to 1,000. The units-wheel W has a tappet arm, Z, which is adapted to engage the tens-wheel once at each rotation of the units-wheel, so as to turn the tens-wheel a distance corresponding to the width of one tooth, and the tens-wheel has a tappet-arm, A', which is adapted to engage the hundreds-wheel once at each rotation, so as to turn said hundreds-wheel a distance corresponding to one tooth.

B', C', and D' represent spring pawls or detents, which engage the units, tens, and hundreds wheels, respectively, and prevent the same from rotating in a retrograde direction. E' represents a hinged lid or cover, which is arranged on one side of the case B, and is adapted to be folded over the registering mechanism, so as to exclude dust and dirt therefrom. Said lid or cover is provided with lids F', G', and H', which are adapted to partly expose the units, tens, and hundreds wheels when the lid or cover is turned against the case so as to disclose the numbers on said units, tens, and hundreds wheels, which register with said openings.

The operation of my invention is as follows: As the grain is elevated, it is discharged into one of the compartments of the grain-wheel,



and when a sufficient quantity of the grain has accumulated in said wheel to form a unit of measure—say one-fourth of a bushel—the weight of the said grain causes the spring-arm  
 5 M to lower the grain wheel until the stop-rod of the filled compartment clears the detent-rod I, and the preponderating weight of said filled compartment causes the grain-wheel to partly  
 10 rotate on its axis, so as to discharge the grain therefrom, and as the grain-wheel rotates and becomes lightened the spring-rod elevates the grain-wheel to its initial position, so as to cause the next succeeding stop-rod to engage  
 15 the lower end of the detent-bar, and thereby maintain the said grain-wheel against further rotation until the next compartment thereof has been filled, as before.

It will be understood that at each complete rotation of the grain-wheel the arm S will come  
 20 in engagement with one of the ratchet-teeth of the wheel W, so as to move the latter a distance corresponding to the width of one tooth, and thereby register the fact that one bushel of grain has been weighed. As the grain is  
 25 discharged from the spout C, it is caught in bags or other suitable receptacles. By reason of the detent-rod I being vertically adjustable the same may be arranged so as to cause the grain-wheel to move any desired distance in a verti-  
 30 cal direction before becoming disengaged from the detent-rod, and thereby the mechanism may be so arranged as to adapt the machine for weighing bushels of different kinds of grain.

Having thus described my invention, I claim—

1. The combination of the frame or inclosing-case, the inclined endless elevator therein, the partition H at the upper end of the elevator, the spring-arm M, the hangers O, depending  
 40 from said spring-arm, the vertically-movable grain-wheel having the stops U and having its axle journaled in said hangers, and the vertically-adjustable detent I, secured to the partition H and having its lower end arranged in  
 15 the path of the stops when the grain-wheel is elevated, substantially as described.

2. In a grain-measuring machine, the combination of the spring-arm, the hangers depending therefrom, the vertically-movable  
 50 grain-wheel having the stops and having axle journaled in the hangers, the vertically-adjustable detent arranged in the path of the stops when the grain-wheel is elevated, the registering mechanism having the ratchet-wheel, and  
 55 the arms secured to the axle of the grain-wheel and adapted to engage the ratchet-wheel, substantially as described.

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

ELIAS FISCUS.

Witnesses:

A. F. ARMSTRONG,  
 L. D. THOMAS.