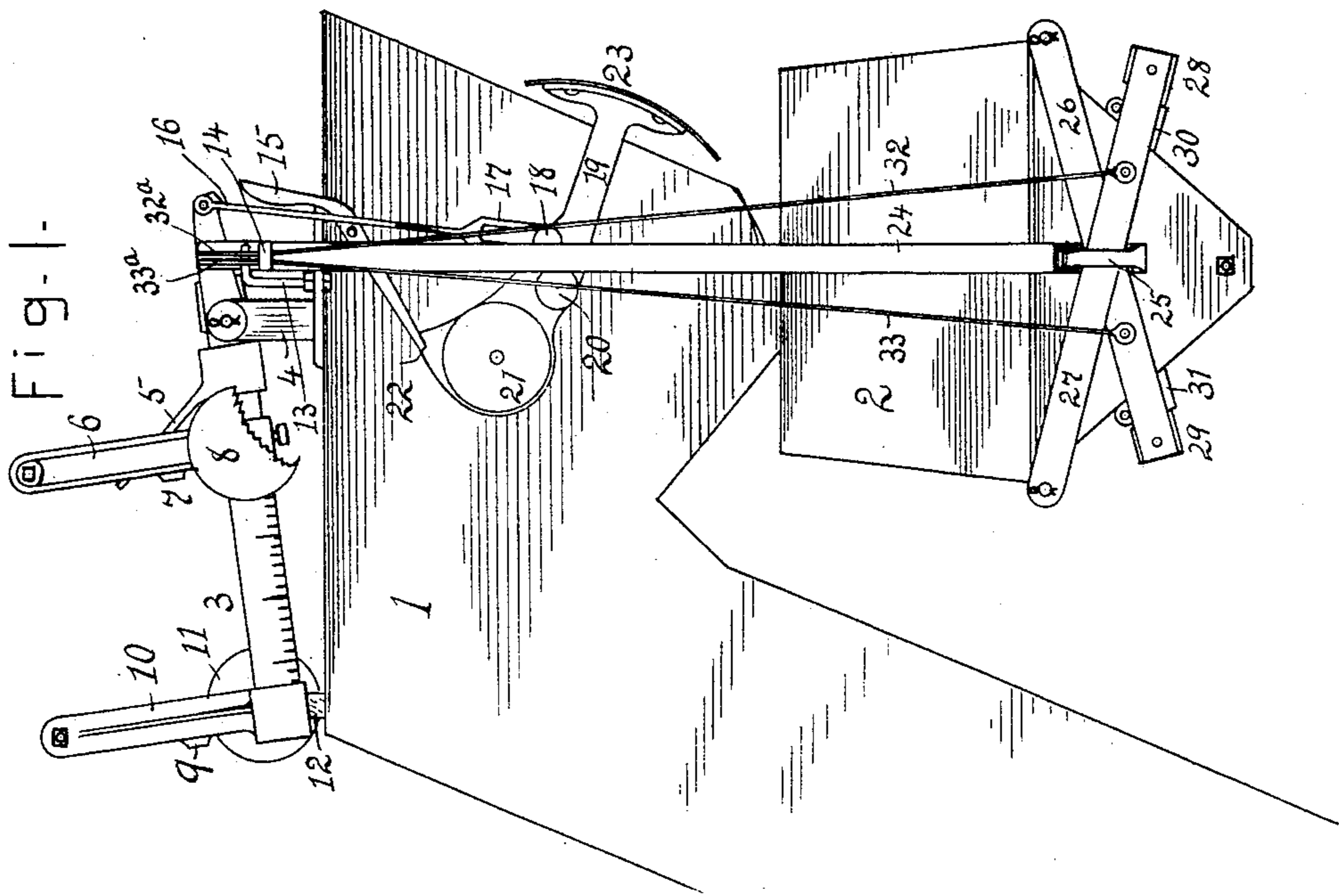
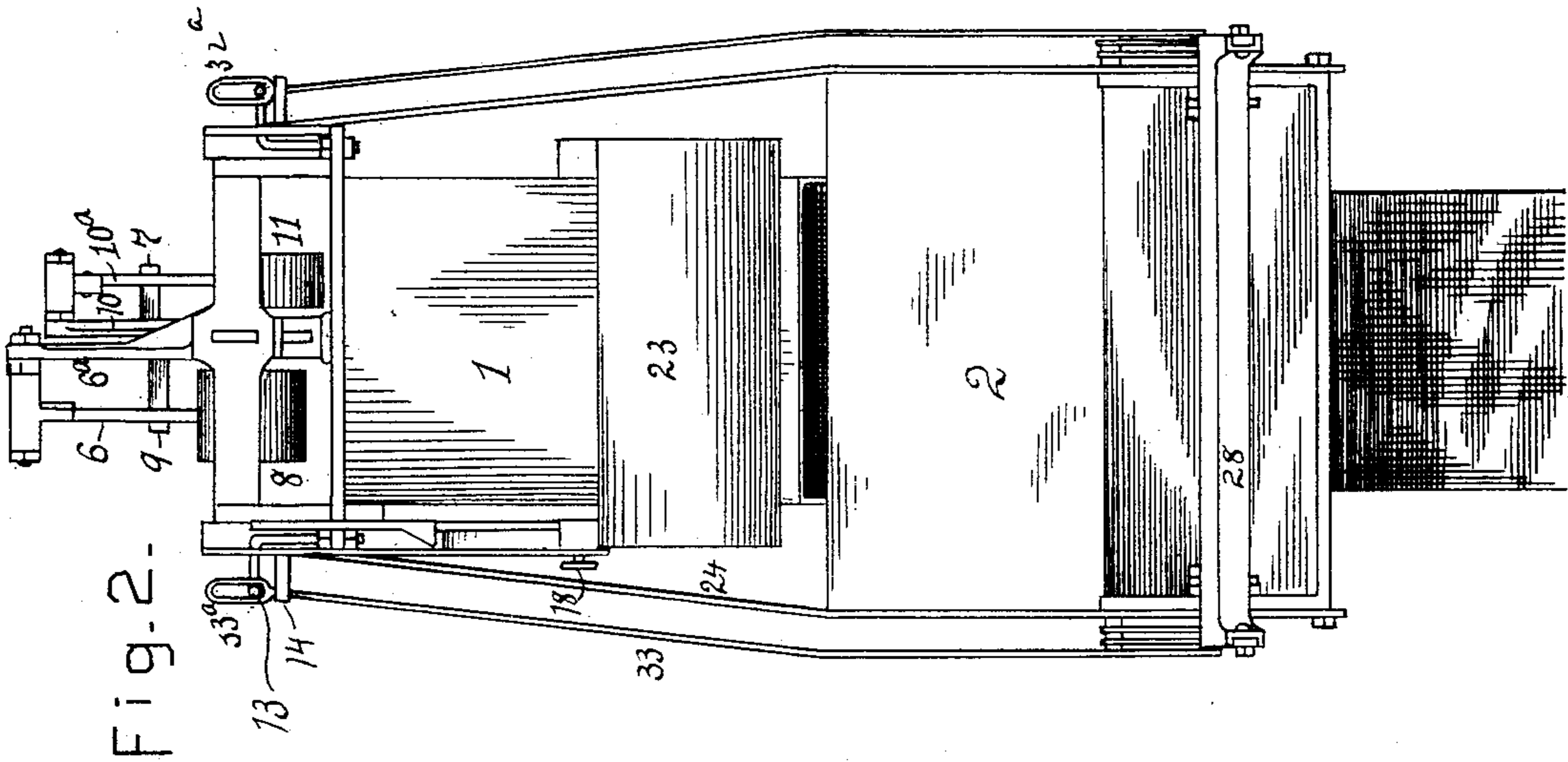


(No Model.)

C. J. HARTLEY.  
AUTOMATIC GRAIN WEIGHER.

No. 463,743.

Patented Nov. 24, 1891.



ATTEST

Helen Graham  
W. W. Graham.

INVENTOR  
C. J. HARTLEY  
by his attorney  
L. P. Graham

# UNITED STATES PATENT OFFICE.

CHARLES J. HARTLEY, OF DECATUR, ILLINOIS.

## AUTOMATIC GRAIN-WEIGHER.

SPECIFICATION forming part of Letters Patent No. 463,743, dated November 24, 1891.

Application filed September 15, 1890. Serial No. 364,961. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES J. HARTLEY, of Decatur, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Automatic Grain-Weighers, of which the following is a specification.

This invention consists in the details of construction and combinations of parts hereinafter set forth and claimed, the general object being to simplify and to increase the efficiency of automatic weighers, and especially to improve the weights in their relation to the scale-beam, whereby the device will be self-leveling to a considerable extent, and the weights, while practically permanent and in stable equilibrium while the beam is balancing, will swing freely toward the pivot when the beam breaks and accelerate the downward motion of the loaded receptacle. The support of the receptacle from the scale-beam is pendulous and of such nature as to form a part of the self-leveling peculiarity of the device. Other peculiarities of detail will appear in the specific description hereinafter given.

In the drawings accompanying and forming a part of this specification, Figure 1 is a side view of the head or upper end of an elevator, showing my device in position thereon; and Fig. 2 is a face view of the same.

The elevator-head 1 carries a standard 4 on its upper surface, which standard forms a pivotal support for scale-beam 3. The scale-beam carries the movable standard 6<sup>a</sup>, from which weight 8 is suspended by bar 6, and also carries the permanent standard 10, from which weight 11 is suspended by bar 10<sup>a</sup>. Stops 9 and 7 limit the backward throw of the respective weight-bars and stop 5 limits the forward throw of weight 8. The elastic block 12 forms a support for the end of the scale-beam and deadens the jar of the same. The weighing-receptacle 2 is suspended from the scale-beam by straps 24. It has inclined doors, which are provided with blocks 30 and 31 and are held closed by cross-bars 28 29 on swinging arms 26 and 27, respectively. Rods 32 33 are connected at their lower ends, the one with arm 27 and the other with arm 26. They extend upward through bracket 14, and they have the slotted terminations 32<sup>a</sup> and 33<sup>a</sup>, respectively. A trip-finger 13 is secured to the top of the elevator and extends through

the slotted terminations of rods 32 and 33 in such manner as to permit a limited amount of vertical motion therein. Arms 19, pivoted at 20 on the elevator-head, carry the cut-off 23. The arm on one side of the elevator has the counter-balance 21 and the lock-notch 22, which is adapted to the trip-lever 15. A rod 16 extends downward from an extension of the scale-beam and has the slotted termination 17, that engages a pin on the arm 19 of the cut-off.

In operation the thrashing-machine carrying the elevator to which my device is attached is leveled up more or less accurately, and the pendulous weighing-receptacle adapts itself to such obliquity as may exist or may afterward be caused by the working of the machine. As grain is fed into the weighing-receptacle, the scale-beam, the weighted end of which rests lower than the pivot, rises gradually until a horizontal position is reached, when the weighing is accurately effected, the scale-beam breaks, the upper ends of the weight-standards pass the perpendicular, causing the weights to swing toward the pivot and accelerate the downward motion of the receptacle, the trip-lever 15 is struck by the descending end of the beam and the cut-off is permitted to close, and the fingers 13 check the downward motion of rods 32 33, thereby withdrawing cross-bars 28 and 29 from contact with blocks 30 and 31 and permitting the grain-discharging doors to swing open. The weight 11 tends to counterpoise the weighing-receptacle, the weight 8 is used to determine the quantity of grain discharged at each operation of the device, and the weights, beam, and stops in their relations to each other and to the horizontal coact with the pendulous receptacle to render the device self-leveling and operative when not entirely level. The top of the elevator forms a convenient and substantial support for the weighing device, and the pendulosity of the weights and receptacle, together with their stable equilibrium, makes the device almost, if not quite, entirely independent of the shaking motion of the thrashing-machine.

I claim as new and desire to obtain by Letters Patent—

1. In weighers, the combination of a weighing-lever, a standard extended upward from

the lever, a weight suspended from the upper end of the standard, and a stop to limit the swing of the weight away from the pivot of the lever.

5 2. In weighers, the combination of a weighing-lever, a standard extended upward from the lever, a weight suspended from the upper end of the standard, a stop to limit the swing of the weight away from the pivot of the lever, and a rest sustaining the weight-carrying  
10 end of the lever somewhat below the pivot thereof.

3. In grain-weighers, in combination, a scale-beam, a weighing-receptacle suspended  
15 from the beam, a fixed standard extending upward from the beam and carrying from its upper end a suspended weight adapted to counterbalance the weighing-receptacle, a standard movable on the scale-beam and extending upward therefrom, and a weight sus-  
20

ended from the upper end of the movable standard, as set forth.

4. In grain-weighers, in combination, the elevator having the discharging-vent, the scale-beam pivoted on the top of the elevator, 25 the weighing-receptacle suspended from the scale-beam under the vent of the elevator, the cut-off, the trigger in the path of the scale-beam holding the cut-off normally open, the slotted rod connecting the scale-beam with  
30 the cut-off, and the standards on the scale-beam carrying the suspended weights, as set forth.

In testimony whereof I sign my name in the presence of two subscribing witnesses.

CHARLES J. HARTLEY.

Attest:

PAUL J. HIEKISCH,  
WALTER C. KEELER.