

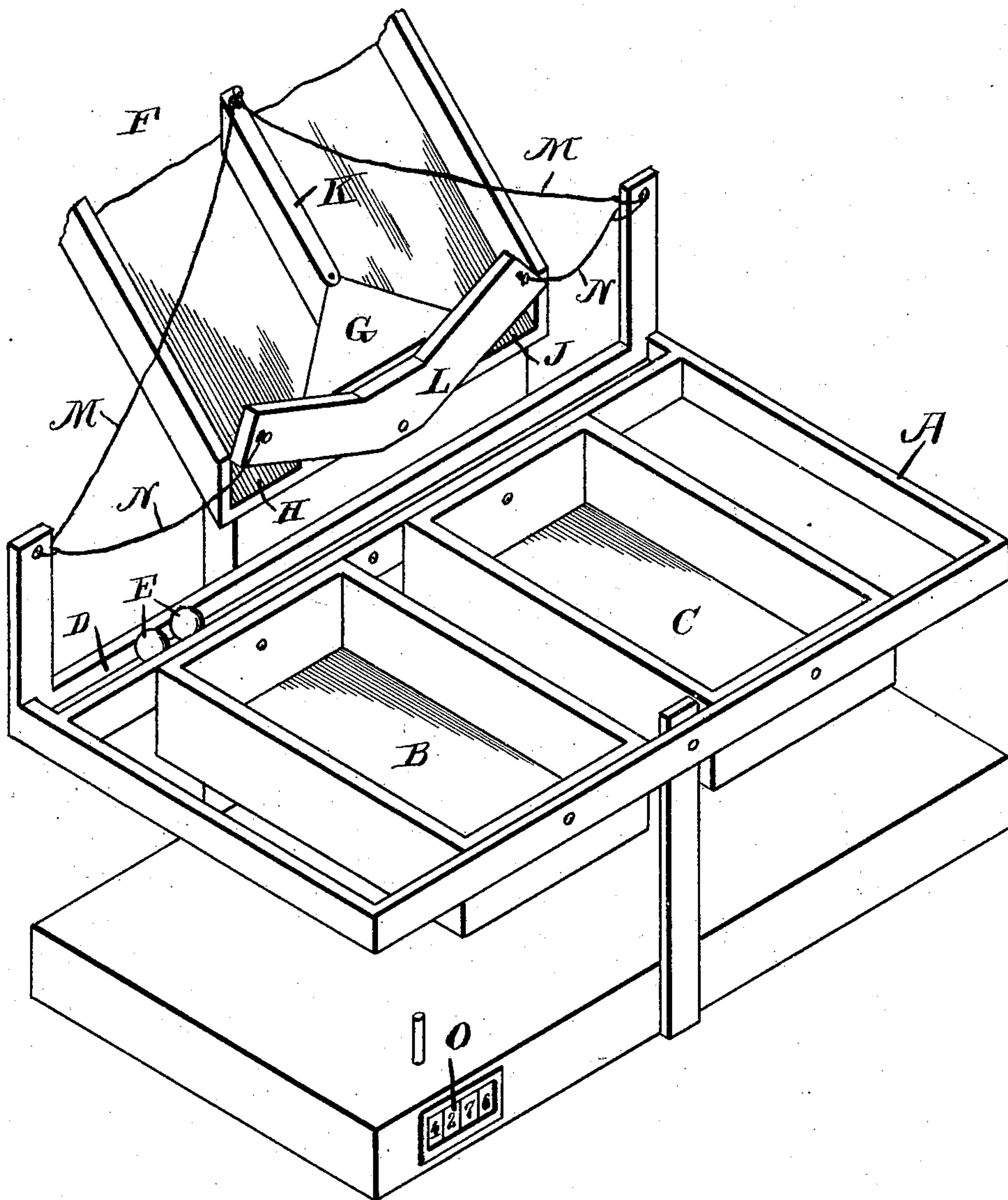
(No Model.)

J. PEPPER.

GRAIN WEIGHING AND REGISTERING APPARATUS.

No. 379,325.

Patented Mar. 13, 1888.



James Pepper.

Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES PEPPER, OF STAR CITY, INDIANA.

GRAIN WEIGHING AND REGISTERING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 379,325, dated March 13, 1888.

Application filed November 30, 1887. Serial No. 256,498. (No model.)

To all whom it may concern:

Be it known that I, JAMES PEPPER, of Star City, Pulaski county, Indiana, have invented certain new and useful Improvements in Grain-Weighing Apparatus, of which the following is a specification.

This invention pertains to a device for weighing and tallying grain as it flows from a thrashing-machine. In this apparatus the grain flows into a measuring-vessel—as an ordinary half-bushel—and when the proper weight of grain has reached the vessel the flowing stream is cut off and shifted to a second vessel, each measure being carried away and emptied as fast as filled, the number of measures thus removed being tallied by a suitable register.

My improvements will be readily understood from the following description, taken in connection with the accompanying drawing, which is a perspective view of a device illustrating my invention.

In the drawing, A represents a horizontally-pivoted frame whose pivots are supported in suitable standards, this frame constituting a scale-beam; B, a scale-pan hung on pivots in one end of the scale-beam, the pan to be of a size adapted to receive the measuring-vessel which is to be used—in most cases an ordinary half-bushel measure; C, the opposite scale-pan; D, a trough extending from end to end of the scale-beam, this trough appearing in the drawing as being open at its top, but in practice to be provided with a protecting-cover; E, balls disposed in and adapted to roll freely in the trough, these balls being of definite weight, as hereinafter indicated, and constituting virtually the scale-weights; F, the discharge-spout leading to the apparatus, this spout to be in practice the ordinary grain-outlet spout of a thrashing-machine, it being understood that the spout is simply an ordinary inclined single-way conduit down which the grain may flow; G, a partition-block at the mouth of the spout, dividing the mouth of the spout into two separate outlets; H, one of these outlets in a position adapted to discharge grain into a measuring-vessel placed in the scale-pan B; J, the other outlet of the spout, adapted to properly discharge grain into the measuring-vessel placed in the scale-pan C; K, a valve pivoted in the spout above the partition-block

G and fitted to turn sidewise in either direction and cut off the appropriate outlet, H or J, from communication with the spout F; L, a cut-off plate pivoted at the lower end of the spout and adapted to tip in either direction and close alternately the outlets H or J; M, cords or analogous connections reaching from the valve K and attached at the ends of the scale-beam, these cords being so arranged that when the scale-beam is tipped in one direction the valve K will close at one side and cut off one of the spout-outlets, and when the scale-beam is tipped in the other direction the valve will open the outlet which has been closed and move to the other side and close the outlet which has been open; N, similar cords or connections attached at the ends of the scale-beam and to the pivoted cut-off L, these cords being so arranged that when the scale-beam tips and begins to pull the valve K to one side the cut-off L quickly closes the spout-outlet from which the valve K is to divert the flowing of grain; and O, a register or counter of any suitable character to be actuated at each tipping or alternate tipping of the scale-beam.

Let the ball or balls E be of such weight as when at one end of the trough to just counterbalance the measuring-vessel to be used when that measuring-vessel contains the exact amount of grain which is to constitute the unit of count to be employed in the apparatus, or to counterbalance the same when there is an empty measuring-vessel in the opposite scale-pan.

The operation is as follows: Set a measuring-vessel in each scale-pan. Press down, say, the right-hand end of the scale-beam. The ball or balls E will roll to the right-hand end of the trough, and the scale-beam will remain firmly in the tipped position with the scale-pan B and its contained measuring-vessel in an elevated position. The valve K will have been pulled over from the right, thus diverting the entire flow of grain to the outlet H, which will be open. Grain will flow from the outlet H into the elevated measuring-vessel. When the unit amount of grain has run into this measuring-vessel, it will put the scale-beam in equilibrium, and the scale beam will tip into a level position, the grain continuing to flow. The instant the measure of grain preponderates

the left-hand end of the scale-beam will tend to sink and the ball or balls E will instantly roll to the left-hand end of the trough. This causes an instantaneous and very decided preponderance at the left-hand end of the scale-beam, and as a consequence the left-hand end of the scale-beam sharply drops. This dropping motion first pulls the left-hand cords taut and then tips the cut-off L, so as to sharply cut off the flow of grain from the outlet H, and at the same time the valve K is pulled over to the left, thus completely cutting off the left-hand outlet of the spout and diverting the entire flow of grain to the right, a certain amount of grain becoming imprisoned at the left-hand side of the spout between the valve and the cut-off. The grain now flows from the right-hand outlet, J, into the measuring-vessel in the right-hand scale-pan, C, the cut-off L having opened the outlet J when it closed the outlet H. While the grain is flowing into the new measuring-vessel the previously-filled measuring-vessel is removed from the left-hand scale-pan and emptied and then replaced. The removal of this measure full of grain has no tendency to disturb the position of the scale-beam unless the removal be deferred until such late time as the new measuring-vessel may be nearly filled.

The proper account or tally of measures of grain removed may be kept in any way desired; but it is preferable to attach a counting-register to the apparatus, so as to automatically indicate the number of times the scale-beam has tipped.

I claim as my invention—

In a grain-weighing apparatus, the combination of a pivoted scale-beam, a pair of scale-pans supported thereby and adapted to receive measuring-vessels, a trough upon the scale-beam adapted to receive one or more rolling scale-weights, a spout arranged to convey a stream of grain toward the apparatus and provided with two outlets adapted to discharge, respectively, over the scale-pans, a cut-off fitted to close alternately said two outlets, a valve in said spout arranged to direct the flow of grain in said spout alternately to either of said outlets, and cords or analogous connections attached to the scale-beam and to said valve and cut-off and arranged to operate the valve and cut-off as the scale-beam tips, substantially as and for the purpose set forth.

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Witnesses:

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