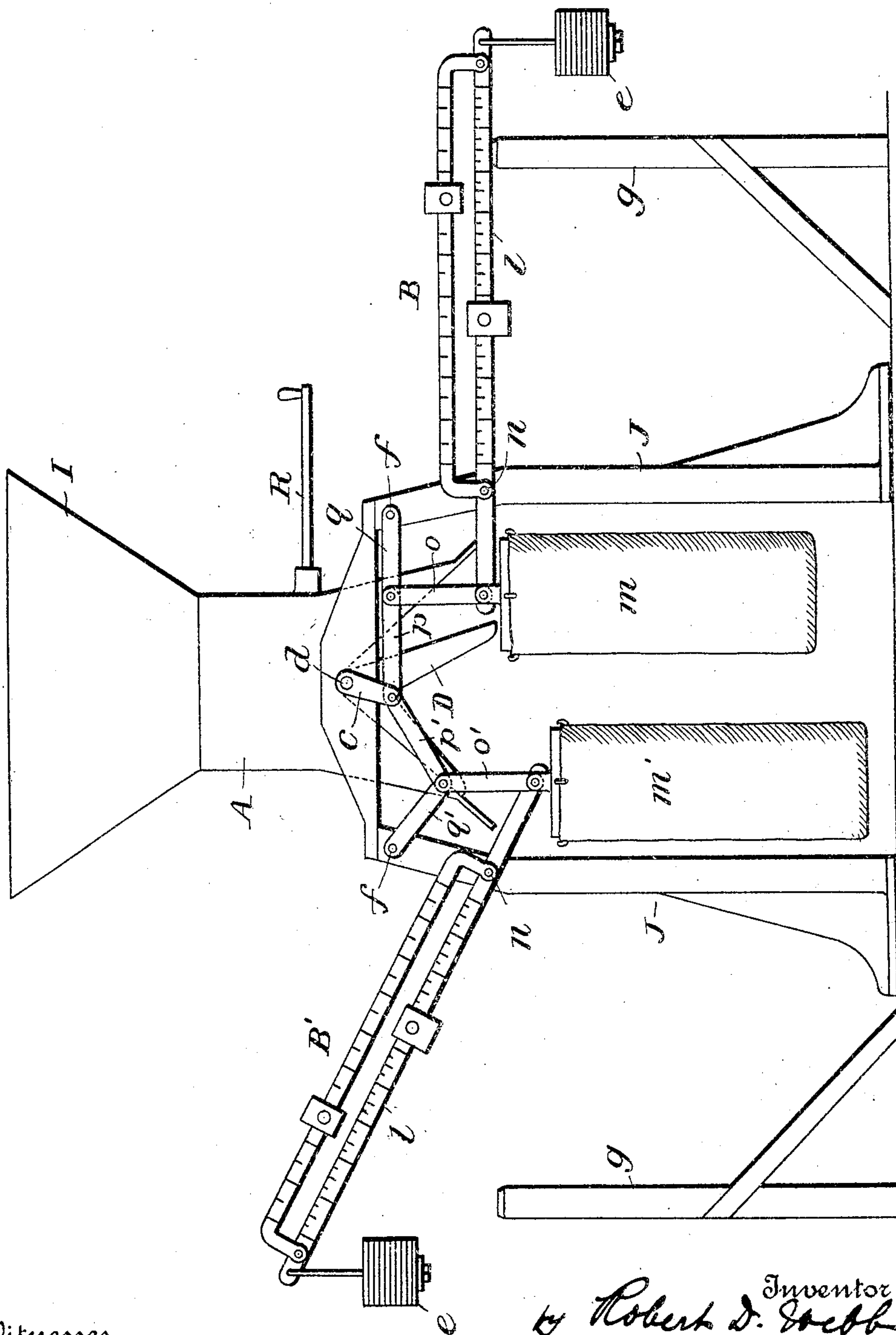


No. 801,490.

PATENTED OCT. 10, 1905.

R. D. WEBB.
AUTOMATIC WEIGHING MACHINE.
APPLICATION FILED FEB. 14, 1905.



Witnesses
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UNITED STATES PATENT OFFICE.

ROBERT D. WEBB, OF MINDEN, LOUISIANA.

AUTOMATIC WEIGHING-MACHINE.

No. 801,490.

Specification of Letters Patent.

Patented Oct. 10, 1905.

Application filed February 14, 1905. Serial No. 245,571.

To all whom it may concern:

Be it known that I, ROBERT D. WEBB, a citizen of the United States, residing at Minden, in the parish of Webster and State of Louisiana, have invented certain new and useful Improvements in Automatic Weighing-Machines, of which the following is a specification.

My invention relates to automatic weighing-machines; and it consists in such a combination of scales, a chute, and valve and connections that the position of the parts connected with the scale-beam and the receptacle being filled will be maintained until the proper amount of material is supplied, when they will move, and the weight of the parts connected with the other scale-beam will insure an instant closing of the passage to the filled receptacle and the positive descent of the latter and the opening of the passage to the other receptacle, as fully set forth hereinafter and as illustrated in the accompanying drawing, which is a side elevation of one form of weighing apparatus in which my improvement may be embodied.

The material to be weighed passes to a chute A from a hopper I or from the discharge-conduit of an elevator or other source of supply that may be closed by means of a slide-valve R when required or may pass direct from the hopper.

At the mouth of the chute A is a valve D of such a character that when in one position it will afford a passage to a receptacle, as a detachable bag *m*, attached to any suitable scale-beam B, and when in the other position will close said passage, but open another at the opposite side above the receptacle *m'* of another scale-beam B'.

As shown, each scale consists of a beam *l*, pivoted to the frame J at *n* and provided with a weight *e* and with the usual adjustable weights and counterweights, if desired, the position of which determines the weight of material to be deposited in the receptacle.

The valve D in the construction shown is suspended by trunnions or a rock-shaft *d*, and at each side a toggle-lever is connected at its inner end with the valve or with an arm *c* upon the shaft *d* and at its outer end is jointed to a fixed pin *f*. A connecting rod or link *o* or *o'* is pivoted to the inner end of each scale-beam *l* and at the other end is connected to the joint of the links *p' q' p q* of the adjacent toggle-levers.

A suitable stop *g* is arranged so that when

the outer end of each beam descends to such a position that the connected toggle-links are in line with each other and the valve is closed to the opposite side the beam will rest on the said stop.

It will be noted that when the parts are in the position last described, the scale-beam B being horizontal and the scale-beam B' being tilted, the material will pass into the receptacle *m*. As soon as the weight of the material in the receptacle *m* counterbalances the adjusted weights of the beam B the inner end of the said beam will descend, carrying down the link *o* and bringing the links *p q* out of line and at an angle to each other, when the whole force of the multiplied leverage of the weights on the scale-beam B' will be brought into play through the link *o'* to carry the links *p' q'* into line with each other and positively to move the valve D to the opposite side, insuring its positive closing, and, further, positively tilting the beam B throughout the remainder of its movement.

It will be seen that so long as the links of either toggle-lever are in line with each other they will resist the tendency of the tilted beam to swing the valve, but that as soon as the connected receptacle has been properly filled the links of this lever are carried downward sufficiently to permit the above-described effect of the tilted beam to not only shift the valve, but to positively force down the beam connected with the filled receptacle instead of depending upon the mere weight of the latter to effect this result. The movements of the parts are therefore not only positive, but rapid, insuring the instant cutting off of the supply when the proper amount has been deposited in the receptacle.

It will be seen that the framework J need only be of the simple character required to support the end of the chute and the pivots of the toggles and the beams, &c., and can be of any desired construction.

Without limiting myself to the precise construction and arrangement shown, I claim—

1. The combination in an automatic weighing-machine, of a plurality of receptacles, a chute, a valve at the end of the chute whereby to deflect the material to different receptacles according to its position, two scales supporting said receptacles and provided with counterweights, and connections between each scale and the valve, substantially as set forth.

2. The combination in an automatic weighing-machine, of a plurality of receptacles, a

chute, a valve at the end of the chute whereby to deflect the material to different receptacles according to its position, two scales supporting said receptacles and toggle-levers connected with the valve and with the scales, the parts of each toggle arranged to be in line when the attached beam is in its horizontal position with the valve adjusted to supply the receptacle of said beam, substantially as set forth.

3. The combination of the chute, valve, two toggle-levers each pivotally connected at its inner end with the valve or valve-crank and fixedly pivoted at the other end, and two scale-beams, each connected at or near its inner end with the central joint of one of the toggle-levers, substantially as set forth.

4. The combination in an automatic weighing-machine, of the chute, valve, two toggle-levers each pivotally connected at its inner end with the valve or valve-crank, and fixedly pivoted at the other end, and two scale-beams, each connected at or near its inner end with the central joint of one of the levers, all so arranged that the links of each toggle shall be in line and the adjacent chute-passage open when the inner end of the adjacent beam is in its upper position, substantially as set forth.

5. The combination in an automatic weighing-machine, of the chute, valve centrally hung in the mouth of the same to open a passage at either side according to its position, an arm connected with the valve, a toggle-lever at each side connected at its inner end to said arm and jointed fixedly at the outer end, two scale-beams, and a link connecting each to the central joint of the adjacent toggle, substantially as set forth.

6. The combination in an automatic weighing-machine, of the chute, valve centrally hung in the mouth of the same to open a passage at either side according to its position, an arm connected with the valve, a toggle-lever at each side connected at its inner end to said arm and jointed at the outer end at a fixed point, scale-beams, and a link connecting each to the central joint of the adjacent toggle, said toggle-levers so arranged that the links of each shall be in line when the connected scale-beam is in its horizontal position, substantially as set forth.

7. The combination in an automatic weighing-machine, of two scale-beams connected with each other by means of toggle-levers so

arranged that when one scale-beam is in its horizontal position the links of the toggle connected therewith come in line and form a rigid abutment against any disturbance through the connection with the other scale-beam while the receptacle attached to the horizontal beam is being filled, and weighed, substantially as set forth.

8. The combination in an automatic weighing-machine, of two scale-beams connected with each other by means of toggle-levers so arranged that as soon as the links of the toggle-lever connected with the scale-beam holding the receptacle being filled are pulled out of line the multiplied power of the weights on the other scale-beam is exerted through the toggle-lever connected with this beam to aid and positively force the downward motion of the receptacle just filled, substantially as set forth.

9. In an automatic weighing-machine, the combination of the toggle-levers attached to the scale-beams so arranged that the links of each toggle-lever come in line alternately and respectively form rigid abutments to prevent the movement of the valve or the disturbance of the scale-beams while the receptacles are being alternately filled, substantially as set forth.

10. In an automatic weighing-machine, the combination of the scale-beams and their respective toggle-levers arranged for their links to come in line alternately and connected with a valve to turn the same to alternately direct the flow of the material being weighed into one or the other receptacle, substantially as set forth.

11. In an automatic weighing-machine, the combination of the chute or hopper, the balanced valve having diverging faces, the scale-beams, and the toggle-levers, with their links arranged to alternately come in line, and connected with said valve to turn same alternately and to hold said valve in position until the desired amount of material has flowed into the receptacle being filled, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBT. D. WEBB.

Witnesses:

PIERCE CREWS,
N. R. GRIGSBY.