No. 851,223. PATENTED APR. 23, 1907.

A. S. CROCKER.

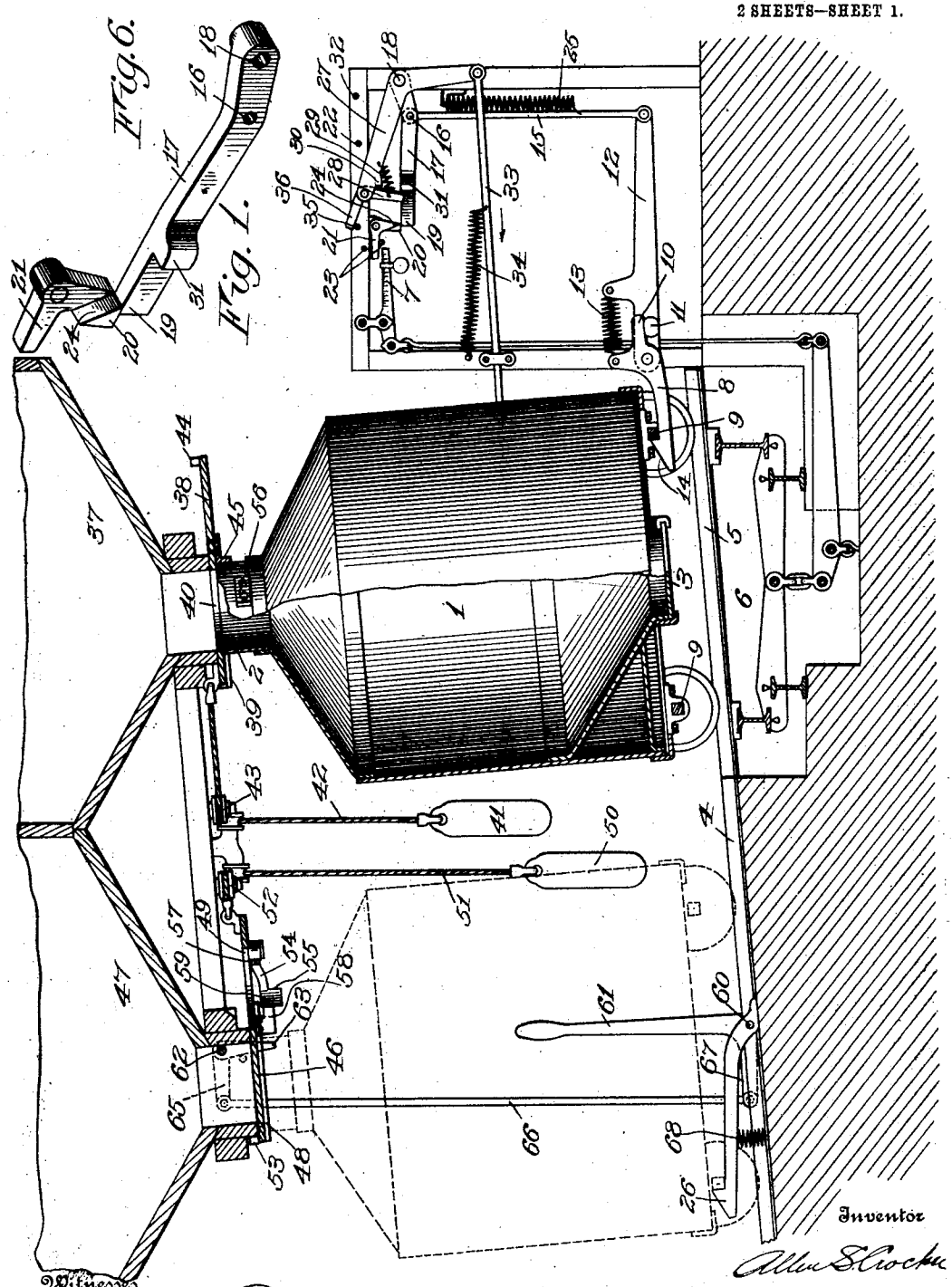
AUTOMATIC WEIGHING MECHANISM.

APPLICATION FILED JULY 13, 1906.

2 SHEETS—SHEET 1.

Fig. 6.

Fig. 1.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

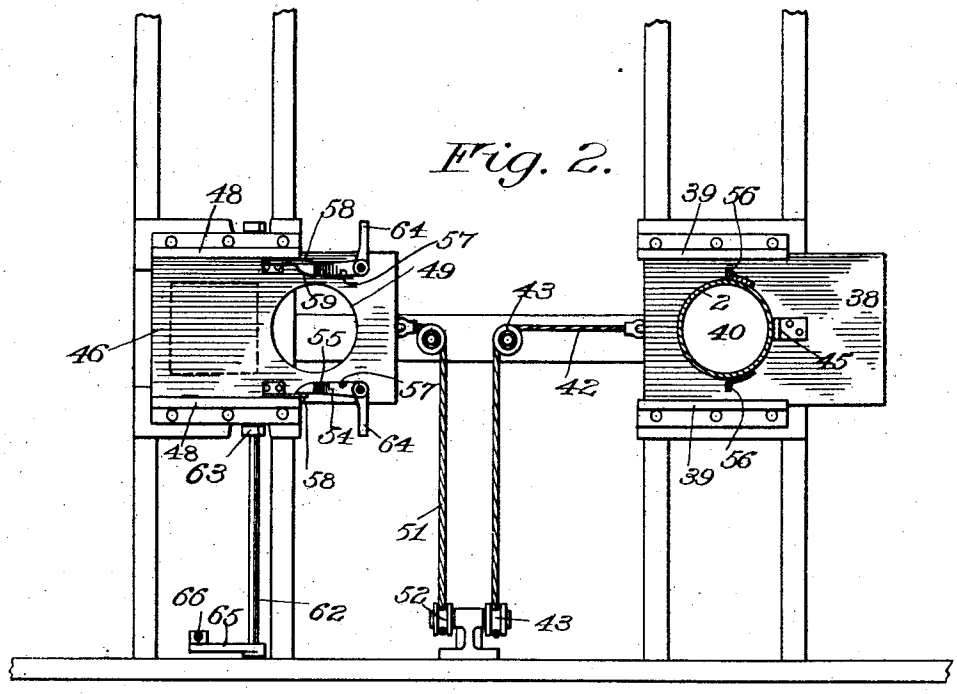


Fig. 3.

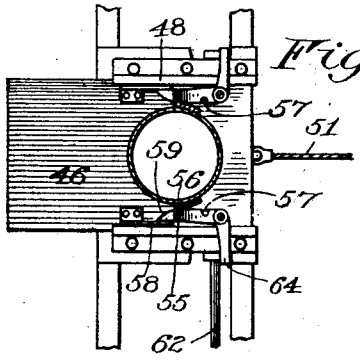


Fig. 4.

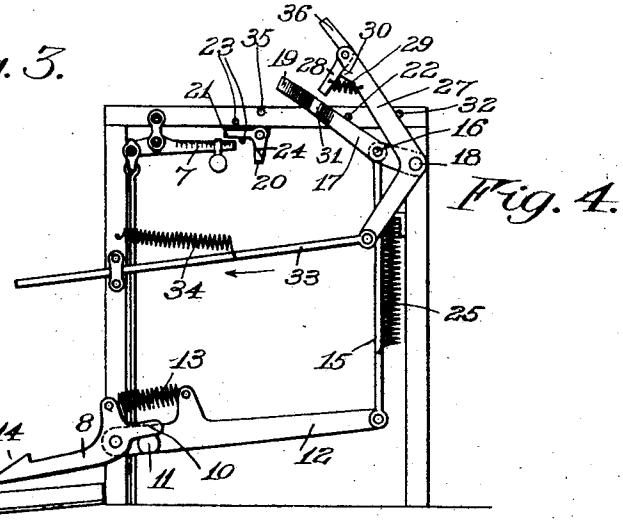
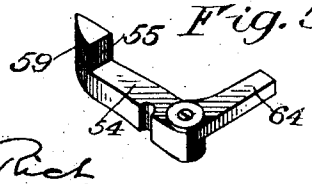


Fig. 5



Witnesses

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UNITED STATES PATENT OFFICE.

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AUTOMATIC WEIGHING MECHANISM.

No. 851,223. Specification of Letters Patent. Patented April 23, 1907.

Application filed July 13, 1906. Serial No. 326,044.

To all whom it may concern:

Be it known that I, ALLEN S. CROCKER, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Automatic Weighing Mechanism; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification.

In the manufacture of sand-lime brick it is necessary to use both coarse and fine sand, mixed in a certain proportion, and my invention has for its object to provide means for placing a car or other receptacle in communication with a bin containing coarse sand and when the car is filled to a predetermined level, shutting off the supply of coarse sand and then moving the car into communication with a second bin containing fine sand, to complete the filling thereof.

In the drawings, Figure 1 is a longitudinal section of the car beneath the sand bins. Fig. 2 is a bottom plan view of the said bins, the top of the car being shown in section. Fig. 3 a similar view of the fine sand bin, with the closure open. Fig. 4 is a view of the mechanism for holding the car beneath the coarse sand bin. Fig. 5 is a detail view of one of the pawls on the closure for the fine sand bin and Fig. 6 is a detail view of the retaining lever in the tripping mechanism.

In the present embodiment of my invention I prefer to use a car, 1, provided at its upper end with an opening, 2, through which the car is filled and a gate, 3, at its lower end to facilitate the removal of the contents therefrom. The car is moved on an inclined track 4, having a portion 5, beneath the coarse sand bin mounted on a platform scale 6, connected through a suitable train of levers to the scale beam 7. The car is held in proper position on said scales by a retaining dog 8, engaging one of the axles, 9, of the car and having a projection 10, cooperating with a stop 11, on an operating lever 12, a yielding connection such as a spring 13, permitting the dog 8 to move laterally as the axle 9, engages a beveled surface, 14, thereon.

Connected to the lever 12, at its outer end is a rod 15, fastened at its opposite end at the point 16, to a lever 17, pivoted at 18 and having a shoulder 19, at one end cooperating with a retaining latch 20 in the form of a bell crank lever, having an arm 21, adapted to be engaged by the scale beam 7, to withdraw it from cooperative relation with the lever 17, when the weight of the car becomes sufficient, a stop 22, being provided to limit the motion of said lever.

The arm 21 of the latch 20 operates between stops 23, and its weight is sufficient to hold the end of the latch in the path of the lever 17, a beveled surface 24, on the upper side serving to deflect it when said lever is moved downwardly. When lever 17 is disengaged from stop 20 it is moved upwardly to the position shown in Fig. 4 by the spring 25 connected to the rod 15, and the latch 8 is withdrawn, allowing the car to move down the track by its own weight, until it is caught by a latch 26, positioning it with its mouth 2, beneath the fine sand bin.

In order to reset the lever 17, for a second operation, I provide a lever 27, also pivoted at 18, having at one end a pivoted pawl 28, operated by a spring 29, against a stop 30, on the lever, holding its end in the path of a shoulder, 31, on the lever 17, said lever 27 also cooperating with a stop 32, to limit its motion. At the other end of the lever 27, is connected a rod 33, adapted to be moved in the direction of the arrow by a spring 34, and cooperating with the outer surface of the car when the latter is moved into its proper position, to rotate the lever 27 about its pivot and push before it the lever 17, through the pawl 28. After the lever 17 has been moved far enough to be retained by the latch 20 the pawl 28 is disengaged by a stop 35, which cooperates with an arm 36 thereon, holding the end of the pawl 28 out of the path of the shoulder 31, on the lever 17.

The coarse sand bin, 37, is provided with a closure or gate 38, operating in guides 39, and having an aperture 40 therein, being normally held in closed position by a weight 41 connected, thereto by a cable 42, operating over pulleys 43, a stop 44, serving to limit its motion in one direction. This slide is also provided with a projection 45 adapted to be engaged by the front surface of the car near its mouth when the car is moved to proper position beneath the bin.

It will be seen that the slide is in open po-

sition when the car is directly beneath, and that when the car is released the slide follows the movement thereof and thus prevents any spilling or waste of the sand.

The gate 46 which closes the fine sand bin 47, operates in guides 48, and is provided with an aperture 49, a weight 50 connected by a cable 51, running over pulleys 52, serving to hold the gate closed, its motion being limited by a stop, 53.

Pivoted on each side of the slide and outside of the path of motion of the top of the car is a pawl 54, having an offset shoulder 55, cooperating with a projection 56 on each side of the top of the car. The pawls 54 are normally held against stops 57 by springs 58, but when the car is moved past in the order to be filled, the projections 56 ride on inclines 59, at the ends of the pawls, and deflect the latter sideways to allow the car to pass. When the car is moved in the opposite direction to the position shown in dotted lines in Fig. 1, the projections 56 engage the square shoulders 55 on the pawls and move the slide with the car to open the bin, the car being held in proper position by the dog 26, which is located between the tracks 4, and secured to a rock shaft 60, which extends out beyond the rails where it is provided with an operating handle 61.

Located above the gate 46 is a rock shaft 62 provided with two downwardly extending arms 63, which are in proximity to lateral extensions 64, on the pawls 54, when the slide is open. At one end, and beyond the path of the car, the shaft 62 is provided with a crank arm 65, connected by a rod, 66, to an arm 67 on the lever 61.

With the slide 46 open the car will be filled completely to the top and on account of the close fitting of the mouth of the car and the aperture in the slide there will be no leakage. After a sufficient time has elapsed for the car to fill, the lever 61 is operated manually against the action of a spring 68, releasing the car and at the same time withdrawing the pawls 54 from engagement with the projections 56 on the car allowing the slide to close immediately before the car has had time to move away.

By the use of my invention a great saving in time is accomplished as there is practically nothing which requires an attendant during this stage of the process, and therefore a skilled workman is not necessary.

Having thus described my invention, what I claim is:

1. The combination of sand bins, an inclined trackway, a movable car mounted upon said inclined trackway, a weighing platform upon which a portion of said trackway rests means for discharging a predetermined amount of sand to said car from each of said bins, means for automatically holding said car until the requisite amount of sand has been emptied into said car from each of said bins, and means for automatically releasing said car from the throat of one of said bins, substantially as described.

2. The combination of a sand bin or bins, an inclined trackway, movable car mounted upon said inclined trackway, a weighing platform upon which a portion of said trackway rests, a latch adapted and constructed to restrain said car from moving until released by an automatic trip and an automatic trip adapted and constructed to release said car, substantially as described.

3. The combination of a sand bin or bins, a car, a trackway upon which said car may be mounted, a weighing platform upon which a portion of said track rests, a latch for restraining said car from moving until released by an automatic trip, an automatic trip adapted and constructed to release said car, automatic closing gates on said bins, substantially as described.

4. The combination of sand bins, a car, a trackway upon which said car may be mounted, a weighing platform upon which a portion of said track rests, a latch adapted and constructed for restraining said car from moving until released by an automatic trip, an automatic trip adapted and constructed to release said car, automatically closing gates on said bins, a lever adapted and constructed to release said car from one sand bin and means for simultaneously closing the gate of said bin, substantially as described.

In witness whereof, I have hereunto set my hand this 28th day of June, 1906.

ALLEN S. CROCKER.

In the presence of:
G. WILLARD RICH,
RUSSELL B. GRIFFITH.