

No. 876,092.

PATENTED JAN. 7, 1908.

C. H. REYNOLDS.
BAG FILLING AND WEIGHING MACHINE.

APPLICATION FILED MAY 6, 1907.

2 SHEETS—SHEET 1.

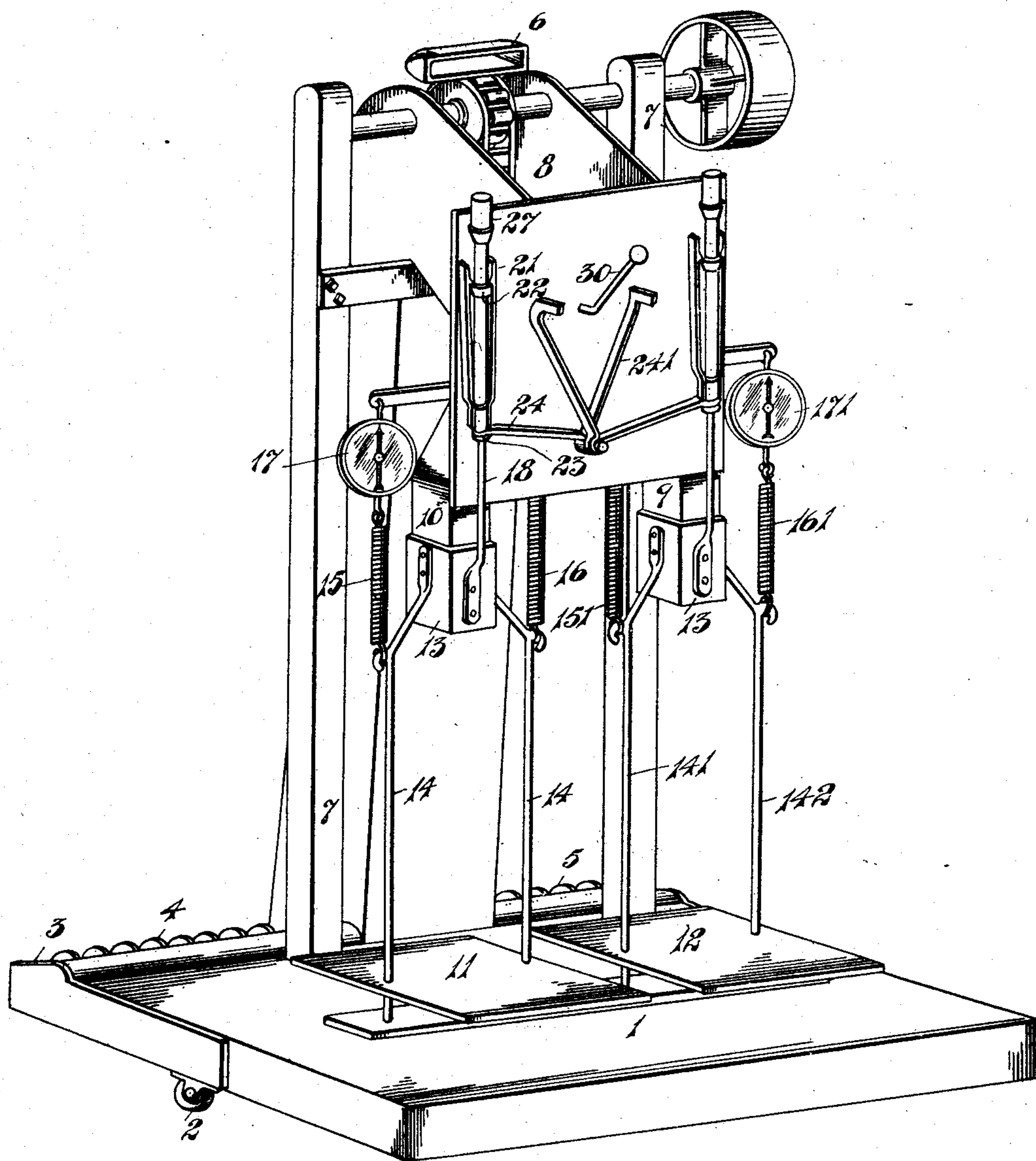


Fig. 1.

WITNESSES

C. E. Day
W. C. Jennings

INVENTOR

Charles H. Reynolds

By

Parker Burton

Attorneys.

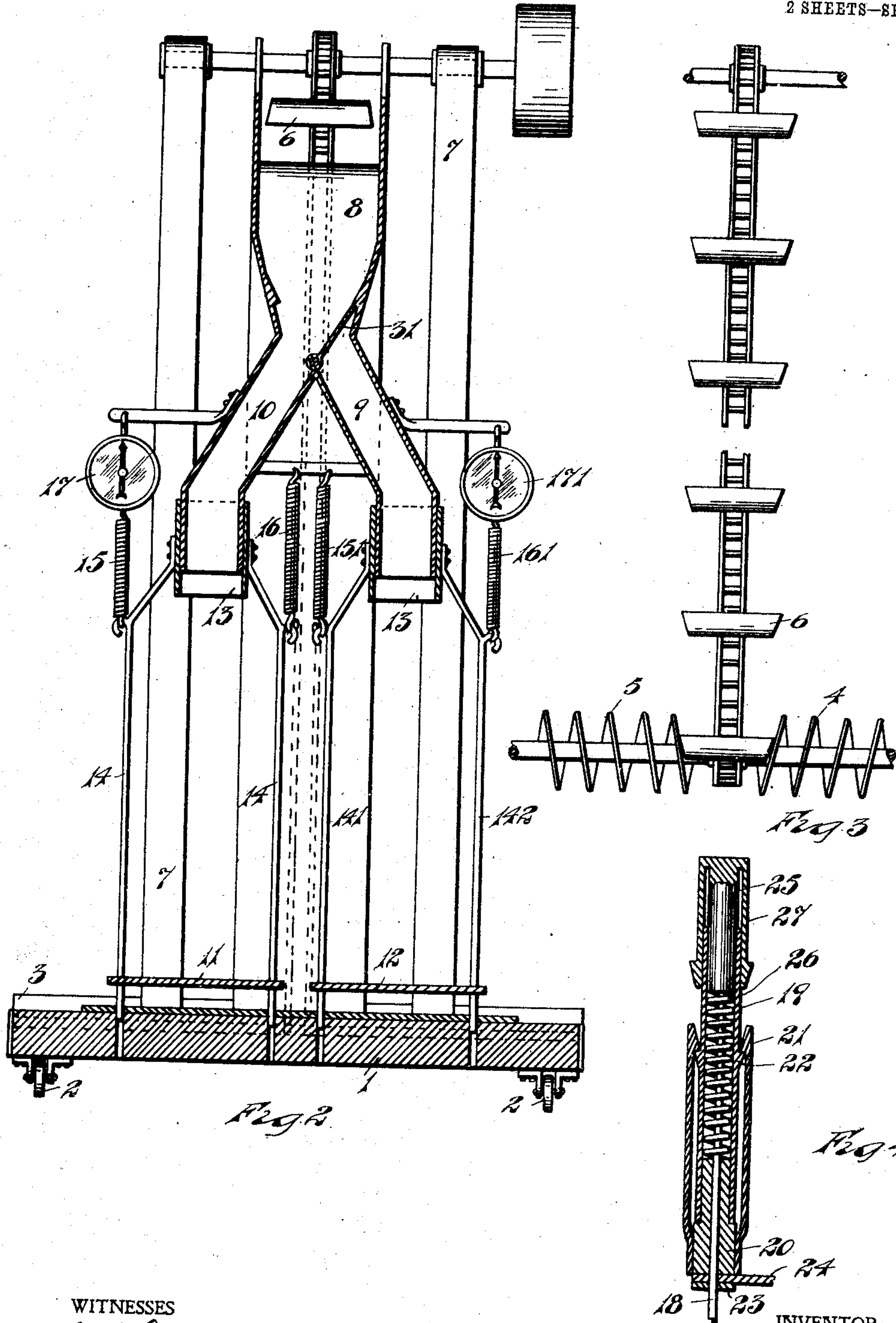
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UNITED STATES PATENT OFFICE.

CHARLES H. REYNOLDS, OF ALPENA, MICHIGAN.

BAG FILLING AND WEIGHING MACHINE.

No. 876,092.

Specification of Letters Patent.

Patented Jan. 7, 1908.

Application filed May 6, 1907. Serial No. 371,955.

To all whom it may concern:

Be it known that I, CHARLES H. REYNOLDS, a citizen of the United States, residing at Alpena, county of Alpena, State of Michigan, have invented a certain new and useful Improvement in Bag Filling and Weighing Machines, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to bag filling and weighing machines; it has for its object an improved machine adapted to produce a substantially continuous feed of the material to be packed in bags and weighed therein and one which will automatically close a valve and stop the feed of material into a bag that has received the proper amount to be contained therein, and at the same time direct the feed and deliver the material into a bag to be filled during the interval while the attendant is tying and removing the first bag, and placing another bag in the place thereof.

In the drawings:—Figure 1, is a perspective of the front of the machine. Fig. 2, is an elevation with the feed spout shown in section. Fig. 3, is a rear elevation showing an elevator and screw supply conveyer. Fig. 4, is an enlarged detail of the trip which controls the valve throwing device.

1 indicates a platform mounted on caster wheels 2, and provided at its rear with a thin metallic plate scoop 3, which may be forced against or under a mass of material to be bagged. At the front of the scoop and at the rear of the posts which sustain the bagging and weighing mechanism is a double screw conveyer of two flights 4 and 5, which are adapted to convey material from the end portions of the scoop 3, to the middle thereof, where it is crowded into a position to be caught by the buckets 6 of a bucket conveyer and lifted to near the top end of the post 7, and there dropped into a conveyer chute 8, from which the branches 9 and 10 lead downward toward vertically movable platforms 11 and 12. At the lower end of each scoop is a telescoping member 13, adapted to engage in the upper end of a bag, the bottom of which rests on the platform 11 or the platform 12. The platform 11 is supported by hangers 14 which depend from

the sliding member 13, and is supported by springs 15 and 16 of a definite tension, and preferably one of these springs actuates an indicating scale 17, which indicates the weight of the contents in the bag resting on the platform 11.

Sliding sleeve member 13 supports an arm or strut 18, which passes through a tubular guide 19 secured to a fixed part of the machine. On the arm 18 engaging in the lower end of the fixed tubular guide 19, is a loose collar 20, provided with hook terminated catches that extend upward, and the hooks 21 of which are adapted to engage over a collar 22 on the tubular guide 19. Underneath the loose collar 20, is a fixed collar 23, and interposed between the loose collar 20 and the fixed collar 23, is the end of a lever arm 24; at the upper end of the arm 18 is an abutment member 25 adapted to engage against a spring 26 that is loosely interposed between the loose collar 20, and the abutment 25; a sleeve secured to the abutment 25 engages outside the tubular guide 19, and is adapted to travel along said tubular guide which at its upper end is spaced from the fixed part of the machine; the lower end of this sleeve 27 is provided with arrow head terminals adapted to engage under the hooks 21 and spread the hooks 21 until the hooks 21 are forced out of engagement with the collar 22; during the period just anterior to the spreading action just referred to, the abutment 25 has been drawn down against the spring 26 and has compressed that spring between the abutment member 25 and the loose collar 20, and immediately upon the completion of the spreading action, the spring expands and the loose collar 20 is driven downward carrying with it the end of a lever 24; the free end 241 of the lever 24 strikes a crank arm 30 of the deflector 31 and throws the deflector 31 across one of the passages 10, closing the passage 10 and guiding the falling material through the passage 9.

The timing of the action described is regulated by regulating the strength of springs 15 and 16, whose strength is measured by the scale 17, and this may be in accordance with any desired scheme of weights or bulk corresponding to weight.

When, by the throwing of the deflector 31 across the passage 10, the passage 9 is opened, and takes its turn in the guiding of the falling material, the action of the complementary parts to those already described

is identical. The tension of the springs 151 and 161 determines the weight which will be supported before the platform 12 is allowed to fall, the scale 171 serving as an indicator of the weight sustained. The platform 12 is supported by hangers 141, 142.

What I claim is:—

1. A portable weighing machine, having in combination an elevator, a screw conveyor adapted to convey material from a point of storage to the receiving portion thereof, a bifurcated chute into whose unitary upper end said elevator is adapted to discharge material, a pivoted deflector provided with a projecting crank arm whereby either branch of the chute may be closed against the further passage of material therethrough, and means adapted to yieldingly sustain a load of material delivered through one of the branches of the chute up to a specified weight, and to thereafter by the sharp impact of a portion thereof against said crank arm actuate said deflector to close such branch against the further passage of material therethrough, substantially as described.

2. In combination with a pivoted lever arm, a chute, a deflector controlling the passage therethrough, a crank-arm controlling the throw of the deflector adapted to be actuated by the sharp impact thereagainst of one end of said lever arm, a spring adapted to actuate the lever arm, and means for compressing and for suddenly releasing said spring, substantially as described.

3. In combination with a deflector, a lever adapted to actuate said deflector, a spring actuator for said lever, means for temporarily holding the spring against movement at one end thereof, and simultaneously compressing said spring against said holding means, and means for releasing said spring after being so compressed, substantially as described.

4. A bag filling and weighing machine, having in combination a chute having a single receiving portion and a plurality of discharge branches, means for feeding material thereinto, a deflector controlling the flow through either of the branches of the chute, a pivoted lever arm by whose impact said deflector may be actuated, a spring adapted to accentuate the stroke of the lever arm, and means adapted to support a predetermined quantity of material discharged thereupon from one of the branches of the chute, and after such maximum has been reached to descend and thereby actuate said lever arm and thereby move said deflector to a position of closure with respect to such branch, substantially as described.

5. In a bagging device, in combination with means for hoisting material from a storage point, a delivery chute into whose receiving end the material thus hoisted is delivered, said chute having a plurality of discharge openings, a pivoted deflector whereby either of said openings may be closed; a plurality of vertically movable platforms, means for supporting each of said platforms and the load resting thereupon up to a predetermined weight, and for thereafter quickly dropping the same and means actuated by the descent of a platform whereby said deflector is moved from its position of closure across one of said openings to a similar position across the other and the material previously dropping thereupon through its appurtenant discharge opening of the chute is deflected from further fall therethrough and through the other of said discharge openings, substantially as described.

In testimony whereof, I, sign this specification in the presence of two witnesses.

CHARLES H. REYNOLDS.

Witnesses:

CHARLES F. BURTON,
MAY E. KOTT.