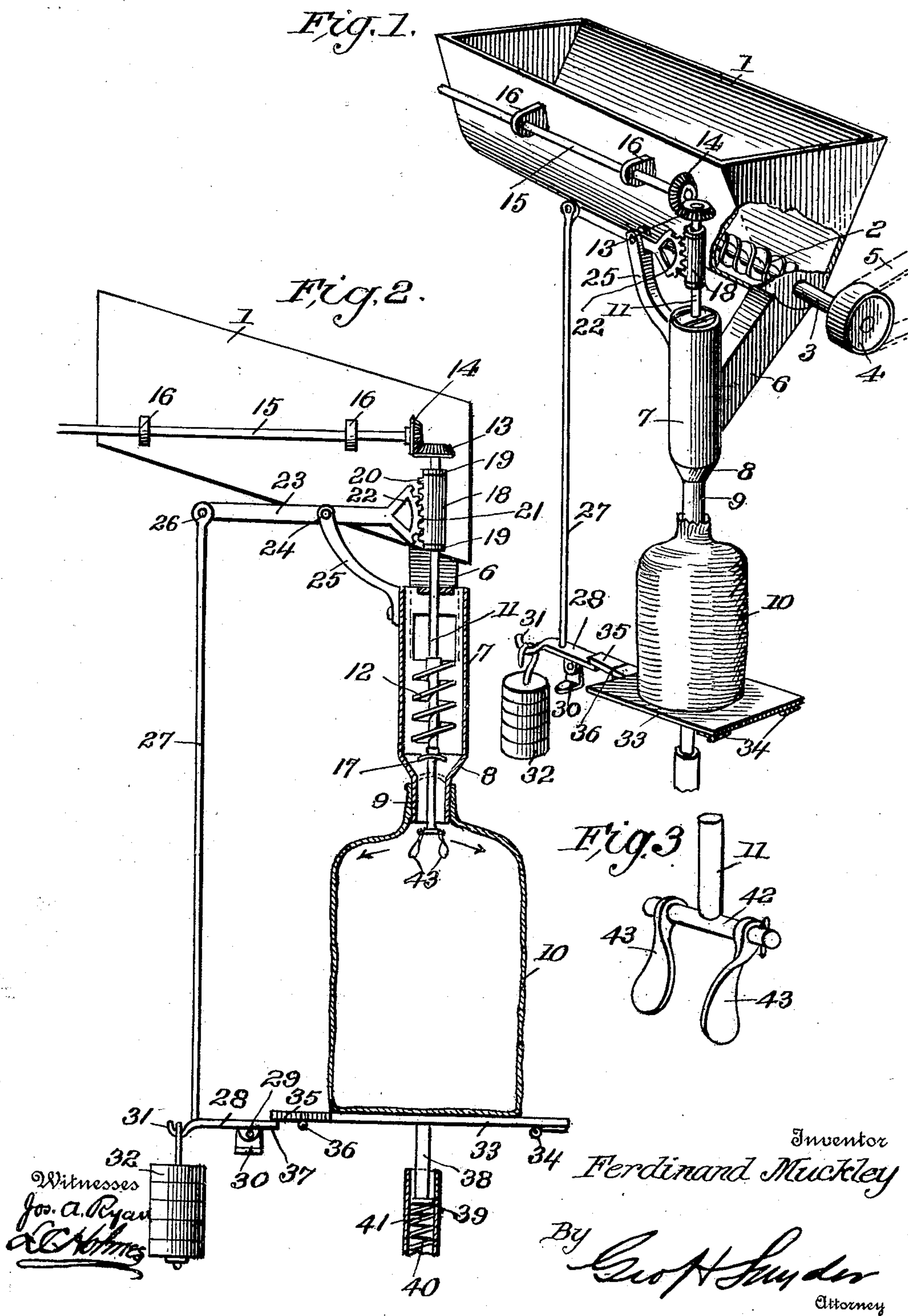


F. MUCKLEY.
BAG FILLING MACHINE.
APPLICATION FILED MAY 25, 1910.

993,188.

Patented May 23, 1911.



UNITED STATES PATENT OFFICE.

FERDINAND MUCKLEY, OF EASTON, PENNSYLVANIA.

BAG-FILLING MACHINE.

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Specification of Letters Patent.

Patented May 23, 1911.

Application filed May 25, 1910. Serial No. 563,241.

To all whom it may concern:

Be it known that I, FERDINAND MUCKLEY, a citizen of the United States of America, residing at Easton, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Bag-Filling Machines, of which the following is a specification.

This invention relates to certain new and useful improvements in bag filling machines.

The present invention has for its objects among others to provide a simple and efficient device whereby the bags may be filled with any predetermined quantity, by weight, and when such quantity has been deposited in the bag, the feed of the material is automatically cut off for a sufficient length of time to allow of the removal of the filled bag and the placing of another one in position.

I employ a rotating scattering device within the bag for spreading the material to the outer sides thereof and employ a movable platform or support for the bag while being filled, the valve which controls the supply of material to the bag being controlled by the movement of said platform or support.

Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the numerals of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view with a portion broken away, showing my improved device in operative relation to the bag. Fig. 2 is a substantially central vertical section on an enlarged scale, the section being through the bag and the filling spout, other parts being in elevation. Fig. 3 is a perspective detail showing the rotating scattering device removed and on an enlarged scale.

Like numerals of reference indicate like parts throughout the several views.

The invention is capable of embodiment in a variety of forms, one of which only is herein illustrated, the same showing an efficient and practical embodiment of the invention.

Referring to the drawings, 1 designates a hopper or receptacle of any desired capacity and contour adapted to be supported in any suitable way, the same having inclined or tapered bottom for an obvious purpose and within the same and extending lengthwise thereof is a screw or spiral conveyer 2 car-

ried by a shaft 3 mounted in the end walls of the hopper or receptacle and provided with a pulley 4 which is designed to be revolved by a belt 5 from any suitable source of power, not shown.

6 is an inclined chute leading from the discharge end of the hopper or receptacle 1 and communicating with the delivery spout 7 which is supported thereby, or in any other suitable manner. This spout has a tapered portion 8 and the funnel or tubular terminal 9 adapted to fit within the mouth of the bag 10.

11 is a vertical shaft mounted in suitable bearings and extending within the delivery spout 7, being provided within the same with a screw or spiral 12 serving as an agitator for the cement or other material to be bagged. This shaft at its upper end carries a bevel pinion 13 meshing with a bevel pinion 14 on a horizontal shaft 15 mounted in suitable bearings 16 on the side of the hopper or receptacle 1, said shaft being designed to be connected with any suitable source of power, whereby it may be revolved so as to revolve the shaft 11, and, consequently, the stirrer or agitator 12.

17 is a flexible valve carried by the shaft 11 and designed to seat upon the inclined inner walls of the portion 8 of the delivery spout, as seen clearly in Fig. 2.

18 is a sleeve mounted on the shaft 11 between the collars 19, this sleeve being provided with a rack or teeth 20, with which meshes the teeth 21 of a segment 22 carried by the lever 23 pivotally mounted between its ends, as at 24, on a bracket or the like extending from the delivery spout 7. Pivotally connected, as at 26, with the outer end of this lever 23 is a rod or the like 27, the lower end of which is rigidly attached to the arm 28 pivotally mounted, as at 29, on some fixed support, as a bracket 30, and carrying at its outer end a hook 31 upon which is adapted to be hung a weight or the like 32.

33 is a support or platform, hinged, as at 34, to some fixed support and upon this platform or support the bag 10 is designed to rest, as seen in Figs. 1 and 2.

35 is an extension hinged, as at 36, to the edge of the platform or table 33, this flap or extension 35 being designed to rest normally upon the portion 37 of the arm 28 beyond the pivot of the latter.

Depending from the platform or support 33 is a rod 38 carrying a flange or the like

39, against which bears a spring 40 confined within the tubular casing or inclosure 41. This spring may be adjusted to any desired tension, to say ten pounds, more or less, while the weight 32 may be sufficient to counterbalance eighty or any other desired number of pounds.

On the shaft 11, below the end of the discharge spout 7, is a cross arm 42 on which are the screw or spiral members 43 which are designed to revolve within the bag and when the parts are in position, they are located just slightly below the lower end of the portion 9 of said discharge spout.

With the parts constructed and arranged substantially as hereinbefore described, the operation is as follows. The bag 10 is placed upon the platform 33 and the mouth thereof engaged over the terminal member 9 of the discharge spout 7. The spring 40 being set, say for ten pounds and the weight 32 for eighty and motion being given to the shaft 3, by means of the belt 5 and pulley 4 and the hopper 1 being supplied with the material to be bagged, the said material is conveyed by the spiral conveyer 2 to the inclined chute 6 down which it falls into the discharge spout 7, where it is kept constantly agitated by the agitator 12, which is kept in constant motion by rotation of the shaft 15 and the intermeshing of the bevel pinions 14 and 13. The valve 17 in the meantime is open, being so held by the arm 28 engaging the member 35 of the table or platform. When the predetermined amount of material, in this case say ninety pounds, has passed into the bag, this weight overcomes the tension of the spring 40 and the weight 32, when the weighted end of the arm 28 is moved upward and the table or support 33 moves downward until the portion 35 is moved out of engagement with the portion 37 of the arm 28. The weighted end of the arm 28 then falls by reason of the preponderance of weight, the valve 17 is closed and the filled bag is removed. Another bag is instantly applied for as soon as the weight is removed from the table 33, the spring 40 returns it to its normal position, the hinged portion 35 yielding to allow the table or support 33 to move upwardly until it assumes its normal position, when said member 35 will, by gravity, fall into the position in which it is seen in Fig. 2, when the valve 17 is lifted from its seat and the material commences again to feed into the bag. The spreaders 43 serve to throw the

material outward against the sides of the bag, from which it falls toward the center, so that the material is evenly distributed within the bag instead of dropping centrally from the discharge spout into the bag.

Modifications in details may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What is claimed as new is:—

1. A bag filling device embodying a discharge spout, means for delivering the material thereto, and a rotary scattering device at the discharge end of said spout.

2. A bag filling device embodying a discharge spout, means for delivering the material thereto, an agitator within the spout, and a rotary scattering device at the discharge end thereof.

3. A bag filling device embodying a discharge spout, means for delivering the material thereto, an agitator within the spout, a rotary scattering device at the discharge end thereof, and a valve within said spout.

4. A bag filling device embodying a discharge spout, means for delivering the material thereto, an agitator within the spout, a rotary scattering device at the discharge end thereof, a valve within said spout, a counterbalanced table beneath said spout for supporting the bag and means actuated by the movement of said table for controlling said agitator and scattering device.

5. In a bag filling machine, a hopper, a spiral conveyer therein, a chute from said hopper, a discharge spout in communication therewith, a rotary agitator within the discharge spout, and a flexible valve within said spout and means for closing the valve when a predetermined weight is deposited in the bag.

6. In a bag filling machine, a hopper, a spiral conveyer therein, a chute from said hopper, a discharge spout in communication therewith, a rotary agitator within the discharge spout, a flexible valve within said spout and means for closing the valve when a predetermined weight is deposited in the bag, and a rotary scattering device at the discharge end of said spout.

In testimony whereof I affix my signature in presence of two witnesses.

FERDINAND MUCKLEY.

Witnesses:

N. CURTIS LAMMOND,
GEO. H. SNYDER.