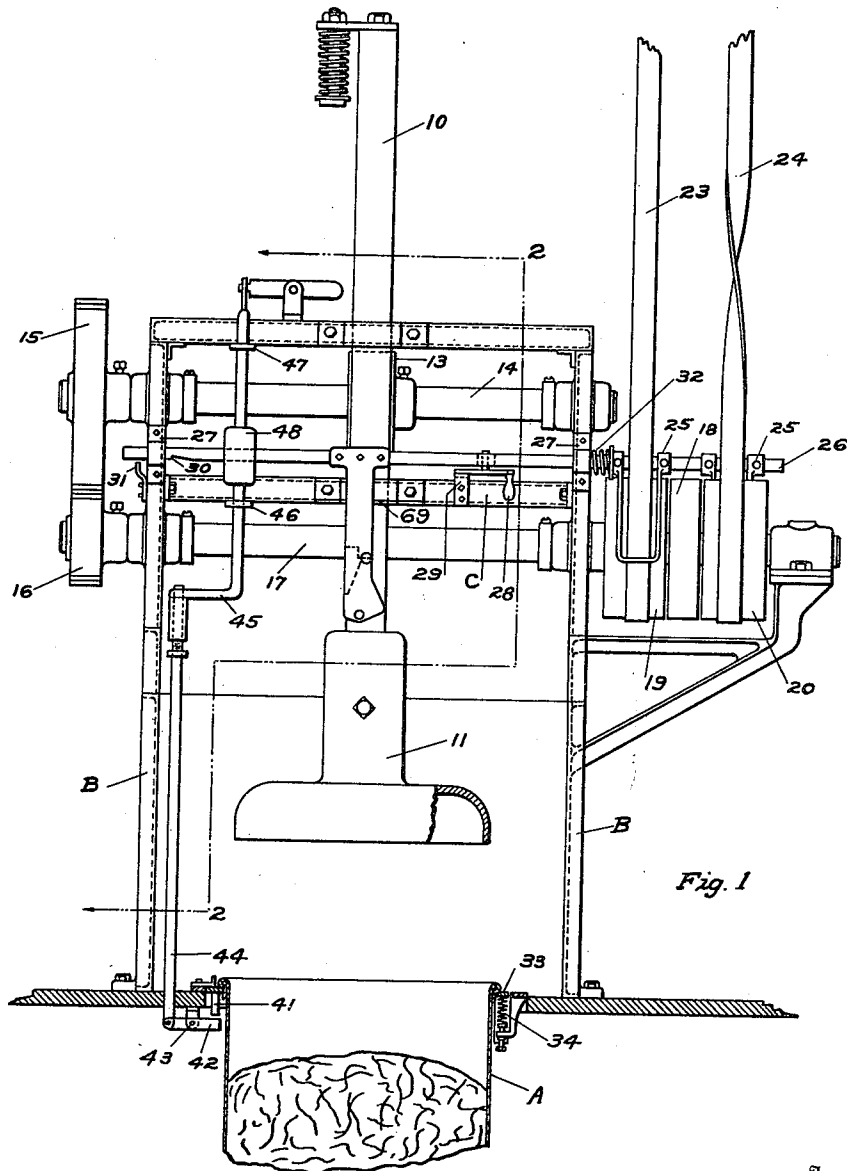


A. C. SARGENT.
BAGGING MACHINE.
APPLICATION FILED NOV. 2, 1914.

1,140,484.

Patented May 25, 1915.
2 SHEETS—SHEET 1.



Inventor

A. C. Sargent.

Witnesses

C. F. Mason.

B. J. Hartnett

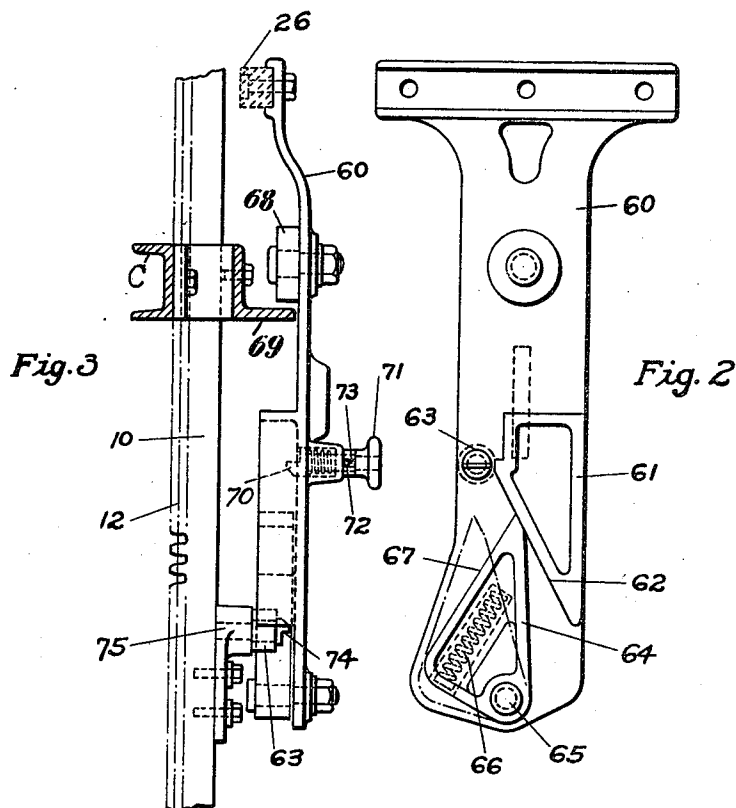
By Southgate + Southgate

Attorneys

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Witnesses:-

C. F. Nisson
O. C. Hartnutt

Inventor:-
A. C. Sargent
by Southgate & Southgate
Attorneys.

UNITED STATES PATENT OFFICE.

ALLAN C. SARGENT, OF WESTFORD, MASSACHUSETTS, ASSIGNOR TO C. G. SARGENT'S
SONS CORPORATION, OF GRANITEVILLE, MASSACHUSETTS, A CORPORATION OF
MASSACHUSETTS.

BAGGING-MACHINE.

1,140,484.

Specification of Letters Patent.

Patented May 25, 1915.

Application filed November 2, 1914. Serial No. 869,789.

To all whom it may concern:

Be it known that I, ALLAN C. SARGENT, a citizen of the United States, residing at Westford, in the county of Middlesex and State of Massachusetts, have invented a new and useful Bagging-Machine, of which the following is a specification.

This invention relates to a bagging machine and particularly to improved devices for automatically reversing the plunger in a bagging machine of the type shown in the patent to Furbush, No. 1,119,421 issued Dec. 1, 1914.

The principal object of my invention is to provide means by which the travel of the plunger in a bagging machine may be automatically reversed at its upper limit of travel so that the operation of the machine will be continuous.

It is a further object of my invention to provide additional means adjustable to permit such continuous operation or to stop the machine when the plunger reaches its upper limit of travel.

With these objects in view my invention comprises certain devices, arrangements and combinations of parts which will be hereinafter described and more particularly pointed out in the appended claims.

A preferred form of the invention is shown in the drawings, in which—

Figure 1 is a front elevation of a bagging machine with my improvements attached thereto; Fig. 2 is a rear elevation of the device for moving the shipper rod as the plunger reaches its upper limit of travel, and Fig. 3 is a side elevation of the device shown in Fig. 2, also showing its operative relation to the plunger.

Referring to Fig. 1 the bagging machine to which my improvements are applied comprises essentially a supporting device for holding a bag A, a vertically movable pressing plunger 10, and means for raising and lowering the plunger. The plunger carries at its lower end a cup-shaped casting 11 adapted to enter the mouth of the bag A and compress the material therein. A rack 12 (Fig. 3) is secured to the rear side of the plunger and meshes with a gear 13 mounted upon a horizontal shaft 14.

The shaft 14 carries a gear 15 meshing with a pinion 16 upon a second horizontal shaft 17. The shaft 17 is provided with

a tight pulley 18 and two loose pulleys 19 and 20. Straight and cross belts 23 and 24 connect the shafts 17 with any suitable source of power, the belts being controlled by shipper fingers 25 secured to a shipper rod 26 slidable in bearings 27 in the frame B of the machine.

A hand lever 28 is pivoted upon a bracket 29 and has a slot-and-pin connection with the shipper rod 26. Near its left hand end, as seen in Fig. 1, the rod 26 is provided with a notch 30 so located that it will engage a fixed member 31 whenever the shipper rod is moved to the left to position the belt 24 upon the tight pulley 18. A coil spring 32 normally tends to move the shipper rod to its extreme right hand position.

The bag A is supported upon a vertically movable bag holder 33, shown in section in Fig. 1, the bag holder being supported in its upper position by a plurality of compression springs 34. The bag holder 33 is provided with a depending projection 41 positioned to contact with a lever 42 mounted upon a fixed pivot 43 and extending horizontally into the path of vertical movement of the projection 41. The other end of the lever 42 is pivotally connected to a link 44 which in turn is adjustably connected to a second link 45 vertically slidable in bearings 46 and 47 and having a casting 48 secured thereon through which the shipper rod 26 is freely movable.

In the operation of the machine the plunger descends and compresses the material in the bag A until the pressure transmitted through the bag A to the holder 33 is sufficient to overcome the resistance of the springs 34. The bag holder 33 is then depressed, carrying with it the projection 41 which engages the lever 42 thus raising the links 44 and 45 and lifting the shipper rod 26 upward until the member 31 is disconnected from the notch 30. The shipper rod when released is immediately moved to its extreme right hand position by the spring 32, thus positioning the belt 23 upon the tight pulley 18 and reversing the travel of the plunger 10.

The parts thus far described form no part of my invention and for a more complete description thereof reference is made to the Furbush application above identified.

In the actual operation of the machine

above described, it has been found desirable under certain circumstances to operate the machine continuously; that is, to reverse the movement of the plunger at each end of its path of travel by shifting the belts 23 and 24 alternately upon the tight pulley. Under other conditions it is desirable to arrest the plunger at the end of each upward stroke. Accordingly, I have devised means by which the machine may be operated either continuously or in single strokes, which means I will now describe.

Referring to Figs. 2 and 3, 60 indicates a bracket or casting adapted to be mounted upon the shipper rod 26 as indicated in Fig. 1. Upon its rear surface the bracket 60 is provided with a projection 61 having an inclined surface 62. When the shipper rod 26 is in its extreme right hand position, with the belt 23 upon the tight pulley 18, the inclined surface 62 is positioned to engage a roll 63 (Fig. 3) mounted upon the front of the plunger 10. As the plunger moves upwardly the roll 63 is carried past the inclined surface 62 and forces the shipper rod to the left in Fig. 1, thus carrying the belt 23 unto the loose pulley 19. This movement, however, is not sufficient to carry the belt 24 onto the tight pulley 18. Both belts 23 and 24 being positioned upon the loose pulleys, the shafts 14 and 17 are free to rotate under the influence of the weight of the plunger 10 and the casting 11. Being thus substantially unsupported the plunger and casting begin to move under gravity in a downward direction.

The bracket 60 is provided upon its rear side with a movable member or block 64 pivoted upon a stud 65 and normally retained in the full line position of Fig. 2 by a coil spring 66. As the roll 63 passes upward along the surface 62 it forces the member 64 into the position indicated by broken lines in Fig. 2. As soon, however, as the roll passes above the member 64 the spring 66 returns it to its normal position. As the plunger moves downward by gravity, it carries with it the roll 63 which now engages the inclined surface 67 of the member 64, thus forcing the shipper rod 26 farther to the left, bringing the belt 24 onto the tight pulley 18, and causing the notch 30 to engage the fixed member 31. At the lower limit of travel the direction of movement will be again reversed through the agency of the parts 41 and 42, the operation thus becoming continuous. A second roll 68 mounted on the bracket 60 is positioned to engage a flange 69 upon the cross-girt C, thus relieving the downward pressure upon the shipper rod 26.

It is sometimes desirable to stop the plunger at the end of each upward stroke. For this purpose I provide the spring-pressed stop 70 mounted upon the bracket 60 and

having a knob or handle 71 fixed thereto. The stop 70 is also provided with a pin 72 which may be positioned within a slot 73 to permit the stop 70 to move to its operative position or may be caused to engage the end of its bearing in the bracket 60, in which position the stop is inoperative.

A cooperating stop or projection 74 is carried by the plunger 10. As shown in the drawings, this projection is formed upon the end of the stud 75 which carries the roll 63. For intermittent operation the knob 71 is turned until the pin 72 is received within the slot 73, the stop 70 being thereupon yieldingly maintained in the position shown in Fig. 3.

As the plunger rises the roll 63 will engage the inclined surface 62 and act through the shipper to move the belt 23 off of the tight pulley 18, as previously described. At the upper limit of its travel the projection 74 will pass the yielding stop 70 which immediately assumes a position below the projection 74 and prevents subsequent descent of the plunger.

It will be evident that by slightly changing the position of the pin 72 I can control the operation of the machine and can cause it to operate either continuously or intermittently.

Having thus described my invention it will be evident that changes and modifications can be made therein by those skilled in the art without departing from the spirit and scope thereof as set forth in the claims and I do not wish to be otherwise limited to the details herein disclosed, but

What I do claim is:—

1. A bagging machine comprising a bag support, a plunger, means to move said plunger vertically, means to automatically reverse the direction of movement of said plunger at its lower and upper limits of travel, and means adjustable to permit the continuous operation of said plunger or to stop said plunger at its upper limit of travel.

2. A bagging machine comprising a bag support, a plunger, means to move said plunger vertically, means controlled by the pressure on the bag support for reversing the movement of the plunger at its lower limit of travel, and additional means for reversing its movement at the upper limit of travel, comprising a shipper rod, a member secured to said rod and having an inclined guiding surface formed thereon, a block pivotally secured to said member and having oppositely inclined guiding surfaces and a stud or roll on said plunger cooperating with said inclined guiding surfaces to move said shipper rod.

3. A bagging machine comprising a bag holder, a plunger movable vertically toward and from said bag holder, a driving shaft

connected to move said plunger, tight and loose pulleys on said shaft, belts on said pulleys effective to rotate said shaft in opposite directions, means to change the position of the belts relative to the tight pulley at the lower limit of travel, and additional means to again change the position of the belts at the upper limit of travel, thereby restoring them to their former driving position.

4. A bagging machine comprising a bag holder, a plunger movable vertically toward and from said bag holder, a driving shaft connected to move said plunger, tight and loose pulleys on said shaft, belts on said pulleys effective to rotate said shaft in opposite directions, means to move one belt off of the tight pulley at the upper limit of travel of the plunger, and means to thereafter move the other belt onto said pulley to drive the plunger in the opposite direction.

5. A bagging machine comprising a bag holder, a plunger movable vertically toward and from said bag holder, a driving shaft connected to move said plunger, tight and loose pulleys on said shaft, belts on said pulleys effective to rotate said shaft in opposite directions, means to move one belt off of the tight pulley at the upper limit of travel of the plunger, and means to thereafter move the other belt onto said pulley to drive the plunger in the opposite direction, said latter means comprising a movable member connected to position said belts and a stud or roll on the plunger rendered effective by the movement of said plunger to

actuate said member to reverse the position of the belts relative to the tight pulley.

6. A bagging machine comprising a bag holder, a plunger movable vertically toward and from said bag holder, a driving shaft connected to move said plunger, tight and loose pulleys on said shaft, belts on said pulleys effective to rotate said shaft in opposite directions, means to change the position of the belts relative to the tight pulley at the lower limit of travel, and additional means to again change the position of the belts at the upper limit of travel, said latter means operating to move said belts in a series of steps to their former driving position.

7. A bagging machine comprising a bag holder, a plunger movable vertically toward and from said bag holder, a driving shaft connected to move said plunger, tight and loose pulleys on said shaft, belts on said pulleys effective to rotate said shaft in opposite directions, means to change the position of the belts relative to the tight pulley at the lower limit of travel, means to remove a belt from the tight pulley as the plunger approaches its upper limit of travel and additional means to move the other belt onto the tight pulley as the plunger begins its next descent.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

ALLAN C. SARGENT.

Witnesses:

FRED W. SWAIN.

FRANK COLLINS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."