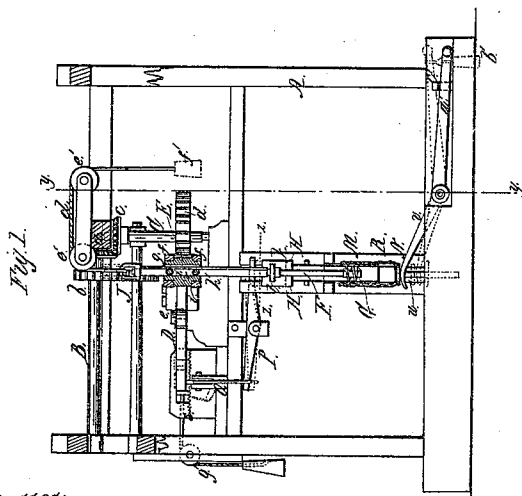
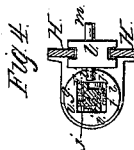
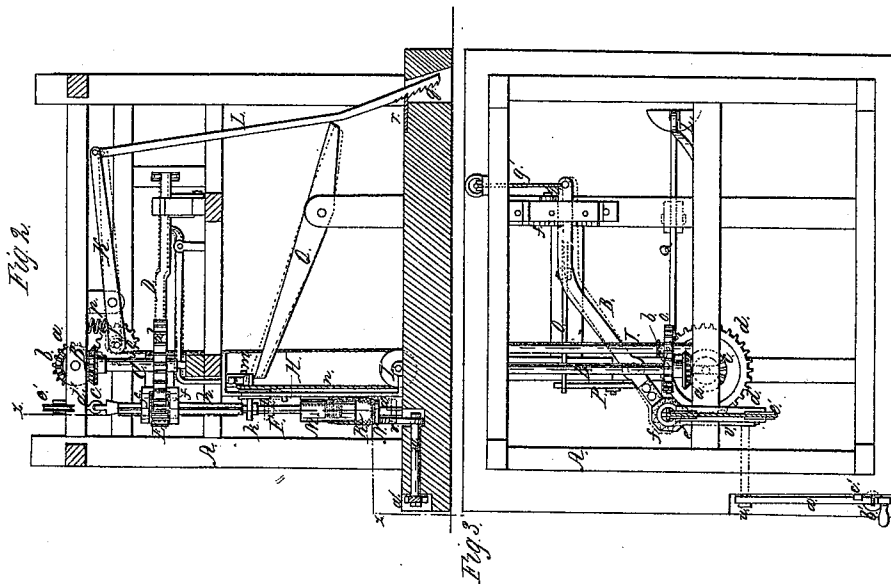


J. BARTHOLOMEW.  
FLOUR PACKING MACHINE.

No. 25,940.

Patented Nov. 1, 1859.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

J. BARTHOLOMEW, OF UNION, NEW YORK.

## MACHINE FOR PACKING FLOUR IN BARRELS.

Specification of Letters Patent No. 25,940, dated November 1, 1859.

*To all whom it may concern:*

Be it known that I, JOSEPH BARTHOLOMEW, of Union, in the county of Broome and State of New York, have invented a new and Improved Machine for Packing Flour, Meal, and the Like in Sacks, Barrels, or other Proper Receptacles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a front sectional view of my invention taken in the line *x, x*, Fig. 1. Fig. 2, is a longitudinal vertical section of ditto, taken in the line *y, y*, Fig. 1. Fig. 3, is a plane or top view of ditto. Fig. 4, is a detached horizontal section of a portion of ditto, taken in the line *z, z*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to obtain a device, whereby flour, meal, or other similar substances, that are packed in receptacles, may be packed therein in equal quantities, or very nearly so, so that each receptacle will be supplied with a certain requisite weight of the material packed.

In the machines hitherto employed for this purpose, the only guide in packing the requisite amount of material, in the receptacles, has been the size of the latter, and as barrels will vary considerably in dimensions, even when carefully made with a view to uniformity in that respect, and as sacks will stretch and expand considerably, a great deal of time is consumed in weighing and adjusting the proper quantity of material in each receptacle after it is packed. I obviate this difficulty by packing the material within a cylinder or measure, attached to the machine, and forcing the material, when packed, from said cylinder or measure into the receptacle prepared to receive it, thereby insuring a uniform supply for each receptacle, or very nearly so, the difference being so trifling that the weight can be made correct, after packing, with but little trouble or delay.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A represents a framing which may be constructed in any proper way to support the working parts.

B, is the driving shaft, placed horizontally in the upper part of the framing and having a bevel pinion *a*, and spur pinion *b*, at its inner end. The bevel pinion *a*, gears into a corresponding bevel pinion *c*, on the upper end of a vertical shaft C, the lower end of which has a spur wheel *d*, on it.

D, is a lever placed horizontally in the framing and working on a fulcrum pin *e*. The front end of this lever has two eyes *f, f*, attached which form bearings for the axis *g*, of a pinion E. The bearings *f, f*, are placed one over the other and the axis *g*, of the pinion E, is hollow it having a square opening made through it to allow a shaft F, to pass through it and work freely up and down. The portion *h*, of the shaft F, that works in the axis *g*, may be described as being of quadrilateral form with a rectangular projection *i*, at each corner or edge, see Fig. 4, said projections serving as bearing surfaces for friction rollers *j*, within the axis *g*, see Fig. 1. On the shaft F, just below the part *h*, a hub or boss *k*, is secured, the use of which will be presently explained and at the lower end of the shaft a screw G, is attached.

H, H, are two vertical guides secured in the framing and having a block *l*, fitted loosely between them. This block has a pin *m*, passing longitudinally through it and a cord or chain *n*, is attached to the block and passes down underneath a pulley I, in the base of the framing and then extending upward, is attached to a pinion *o*, on a shaft J, which is just below and parallel with the driving shaft B. The pinion *o*, on shaft J, is in line with the pinion *b*, on shaft B, and the inner end of shaft J, has its bearing in a lever K, the front end of which has a spring *p*, bearing on it; said spring having a tendency to keep the pinion *o*, out of gear with the pinion *b*. To the back end of the lever K, a rod L, is attached, said rod having a rack *q*, at its lower end which rack works over a stop plate *r*, and by which the back end of lever K, may be secured downward and the pinion *o*, kept in gear with the pinion *b*. This will be fully understood by referring to Fig. 2.

The back end of the lever D, works over a horizontal rack *s*, by which, when necessary, the pinion E, is retained in gear with the wheel *d*, on shaft C. A spring *t*, bears

against the back end of lever D, and has a tendency to keep the pinion E, out of gear with wheel *d*.

To the lower part of the guides H, H, 5 a cylinder M, is attached and in which the screw G, works. N is a supporter or platform which is at the upper end of a rod *u*, that is allowed to rise and fall freely in the base of the framing. Underneath the plat- 10 form N, a lever *v*, passes, said lever being attached to a shaft *w*, which is fitted in the base and has an arm *a'*, attached to its outer end, the outer end of said arm having a weight *b'*, on it. This arm *a'*, when neces- 15 sary is secured down in a horizontal position by a catch *c'*, and the lever *v*, is thereby made to support the platform N, in an elevated position, quite near to the bottom of cylinder M, see Fig. 1.

To the upper end of the shaft F, a cord 20 or chain *d'*, is attached. This cord or chain passes over pulleys *e'*, on the framing and has a weight *f'*, at its end. The back end of lever D, has a cord *g'*, attached to it, and 25 underneath the lever D, a lever O, is placed the outer end of which is bent downward and is connected to a lever P, one end of which extends within the plane of the move- 30 ment of the pin *m*, of the block *l*, Q, is a lever which is placed back of the guides H, H. The front end of this lever Q, is within the plane of the movement of the pin *m*, of block *l*, and its back end is in line with the rod L.

The operation is as follows:—The opera- 35 tor or attendant places the sack, barrel, or other receptacle R, to be filled, on the platform N, the sack R, encompassing the cylinder M, and the catch *c'*, retaining the recep- 40 tacle in proper position on the cylinder. Motion is then given the shaft B, and the flour, meal or other substance to be packed into the receptacle R, is allowed to fall into the upper end of cylinder M. The operator 45 then draws outward the back end of lever D, and secures it at the proper point on rack *s*, so that the pinion E, will be in gear with the wheel *d*. The shaft F, will consequently be rotated and the screw G, will pack the 50 flour or meal within the cylinder M, it being understood that the sack or receptacle R, encompasses the cylinder M, and that the platform N, is quite near the bottom of the cylinder so that but a very small portion 55 of flour, or meal enters the receptacle during the process of the packing of the flour, or meal in the cylinder M. As the screw G, rotates and packs the flour, or meal in cylinder M, the screw rises, the pressure of 60 the screw G, being regulated by the weight *f'*, and when the screw G, reaches the upper part of the cylinder the hub or boss *k*, on shaft F, which carried the block *l*, up with it, will cause said block to strike the end of 65 lever P, and the back end of lever D, will

be raised free from the rack *s*, and the spring 70 *t*, will actuate lever D, and throw the pinion E, out of gear with wheel *d*. The packing process is then finished and the operator draws down the rod L, and thereby throws 75 the pinion *o*, in gear with the pinion *b*, the pinion *o*, being retained in gear with pinion *b*, by means of the rack *q*, catching on plate *r*. When the shaft J, rotates the rope or chain *u*, is wound on it and the block *l*, is 80 forced down between the guides H, H, the pin *m*, in consequence of bearing on the hub or boss *k*, forcing down the screw G, and driving the packed flour or meal from the cylinder M, into the receptacle R, which is 85 allowed to descend under the downward pressure of the screw in consequence of the attendant releasing lever *a'*, from the catch *c'*, the weight *b'*, counterpoising the recep- 90 tacle, or offering sufficient resistance to its descent to permit the flour or meal to be properly packed in the receptacle. Just as the screw G, reaches the lowest point of its descent, lever Q, which is actuated by the 95 descent of lock *l*, will throw out the rack *q*, of rod L, from plate *r*, and the pinion *o*, will be thrown out of gear from pinion *b*. The operator then removes the filled sack, or receptacle and places an empty one on the 100 platform N, and around the cylinder M, the platform being raised by securing down the lever *a'*, and the operation is repeated.

It will be seen from the above description that the screw G, performs two functions, to 105 wit, that of a screw for packing the flour or meal in the cylinder M, and that of a fol- lower or plunger to force the packed flour or meal from cylinder M, into the receptacle R. This is the gist of the invention. 110 Screws have been used for packing flour in barrels or sacks and the screws have, of course, worked in cylinders, as the latter are required to serve as guiders both for the screw, and to conduct the flour into the receptacle; but I am not aware that a cylin- 115 der or measure has ever been used in connection with a screw so arranged and operated that the screw will pack the flour or meal within the cylinder or measure and then force the packed flour or meal from said cylinder or measure into the receptacle, thereby insuring a uniformity of weight in each receptacle.

The employment of a screw to pack the flour I do not claim as my invention; but 120

Having thus described my invention I claim as new and desire to secure by Letters Patent—

1. The combination with the packing screw or its equivalent, of a cylinder or its 125 equivalent, so that the flour will be first packed within the said cylinder or its equivalent, and then discharged therefrom, in a packed state, into a bag, barrel or other receptacle, as set forth. 130

2. The arrangement of the rod L, levers Q, K, block l, connected with the shaft J, by the cord or chain u; and the hub or boss k, on screw shaft F, for the purpose of automatically discharging the packed flour from the cylinder or measure M.

3. The arrangement of the lever D, with pinion E, attached, block l, hub or boss k,

levers O, P, and spring t, for the purpose of automatically discharging the pinion E, 10 from the wheel d, and thereby stopping the rotation of the screw G, at the proper time.

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Witnesses:

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