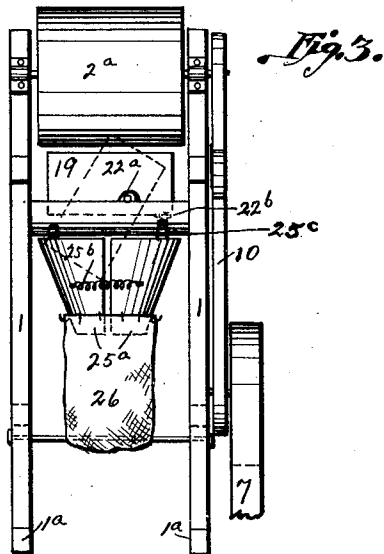
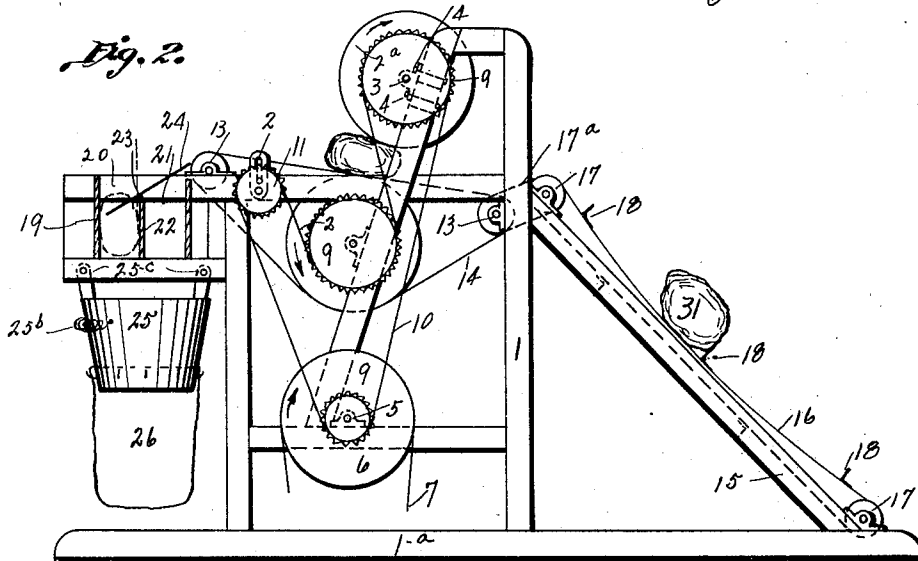
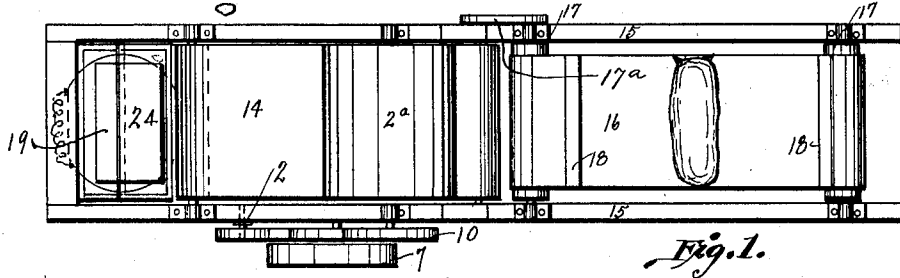


A. HORNTVEDT.
AUTOMATIC SACKING MACHINE.
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1,058,865.

Patented Apr. 15, 1913.



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UNITED STATES PATENT OFFICE.

ARNOLD HORNTVEDT, OF SEATTLE, WASHINGTON.

AUTOMATIC SACKING-MACHINE.

1,058,865.

Specification of Letters Patent.

Patented Apr. 15, 1913.

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To all whom it may concern:

Be it known that I, ARNOLD HORNTVEDT, a citizen of the United States, and a resident of Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Automatic Sacking-Machines, of which the following is a full, true, and exact specification.

The principal object of this invention is to provide a cheap, durable and strong device for mechanically flattening ordinary sacks of flour or the like, and afterward to automatically deliver the flattened sacks in pairs into an ordinary gunny sack so that the same may be conveniently transported by pack-trains.

In districts where provisions such as flour, etc., are necessarily transported by pack-trains it is customary to place two sacks of flour or the like side by side into a standard gunny sack. This filling of the gunny sacks has heretofore been tedious and expensive, the usual custom being to tamp or pound the sides of the flour sacks sufficiently to flatten them considerably so that they will readily enter a standard gunny sack side by side. If the flour sacks are left approximately round as they come from the mill, they will not readily so pass into the mouth of the gunny sack, and for that reason they are tamped in order to flatten them as just described and my purpose is to provide means for performing this operation in a much more speedy and satisfactory manner than has heretofore been known in the art. I accomplish this result by means of the novel construction and arrangement of the parts as will be more fully hereinafter described and shown in the accompanying drawings in which—

Figure 1 is a plan view of the device in operation. Fig. 2 a side elevation. Fig. 3 an end elevation.

1 is the main frame work in which are revolubly mounted the rollers 2 and 2^a. The roller 2^a has its bearings 3, adjustable in a substantially vertical direction. This adjustment may be accomplished in any suitable manner such as employing a series of holes, as shown in dotted lines, for the bolt 4. In the lower portion of the frame work is the drive shaft 5 to which is secured the pulley 6 and around which pulley passes the drive belt 7. Upon the pulley 6 and upon each of the rollers 2 and 2^a are secured

sprocket wheels 9 connected by the chain 10 so that the rollers 2 and 2^a and the pulley 6 revolve in the directions indicated by the arrows.

In order to take up the slack in the chain 10 when the roller 2^a is lowered by its adjusting means I provide a small sprocket wheel 11 which is adjustable vertically by a suitable bolt slidably mounted on the bracket 2 secured to the frame work 1 and which may be frictionally held in various adjusted positions by a suitable nut as will be understood. Around the roller 2 and the smaller rollers 13 passes the belt 14, which is of a width approximately equal to that of the frame work 1. The lower timbers 1^a of the frame work extend forwardly of the main frame and to their forward ends are secured one end of the timbers 15, the other ends of which are secured to the upright portions of the frame work 1. Between the timbers 15 passes the conveyer belt 16, which passes around the rollers 17 and upon the outer face of which belt are the cleats or slats 18. Passing around one of the rollers 17 and one of the rollers 13, is a narrow belt 17^a. At the opposite side of the frame work is the delivery box 19 which is divided into two compartments 20 and 21 by the partition 22 and is eccentrically pivoted at 22^a and counterbalanced by the weight 22^b. The left hand end of the box is open. Pivoted upon the upper edge 23 of the partition 22 is the trap door 24, the portion of which lying upon the right of the pivot 23 rests against the upper edge of the delivery box and is longer than that portion of the trap door which lies upon the left side of the pivot so that gravity will normally keep the trap door in the position shown in Fig. 1. Directly below the delivery box 19 is the hopper 25 which is split into equal halves 25^a and 25^b which are yieldingly held together by the spring 25^b. Each of these halves of the hopper is slidably mounted upon the rods 25^c.

From the foregoing it is believed that the construction and operation of my device will be fully understood by those skilled in the art. It is clear that the sack of flour when laid upon the conveyer belt 16 and adjacent one of the cleats or slats 18 (Fig. 1), will be carried upwardly by the belt 16, an attendant being stationed at that side of the machine to position the sacks on the belt

and to support the sack somewhat if necessary until it reaches and passes over the upper roller 17, after which it is carried forward by the belt 14 and between the two rollers 2 and 2^a, which have been previously adjusted so as to flatten the sack to the desired degree. After passing the rollers 2 and 2^a the sack is carried over the roller 13 at the left of the machine, and drops upon the trap door 24 along which it slides until it passes the pivot point 23 which causes the trap door 24 to swing upon its pivot into its dotted position as shown in Fig. 2, and allows the sack to pass into the compartment 20 of the delivery box 19. The weight of this single sack is not sufficient to overcome the counterbalance 22^b. The next sack on passing the left hand roller 13 finds the compartment 21 open and drops therein. The combined weight of the two sacks being sufficient to overcome the counterbalance 22^b the delivery box 19 tilts into its dotted position (Fig. 3) and allows the two sacks to pass into the hopper 25 and finally into the gunny sack 26, when the latter may be removed and replaced by a fresh gunny sack, and the operation just described repeated. The function of the two halves 25^a of the hopper is that when closed as shown in Fig. 3 the lower end of the hopper is considerably smaller than the mouth of a standard gunny sack and no time is lost in fitting the mouth of the gunny sack over the end of the hopper; and that when the pairs of sacks of flour pass through the hopper their combined weight will be sufficient to spread the two halves 25^a sufficiently to allow the sacks of flour to pass into the gunny sack.

It will, of course be seen that the necessary flattening of the sacks of flour so as to permit a pair of the same to readily enter a standard gunny sack is automatically performed and that the delivery of a pair of sacks of flour into each gunny sack is automatic and obviously much more rapid than the manual flattening of the sacks and subsequent filling of the gunny sacks therewith.

I am fully aware that many different forms of conveying machinery may be used and that other minor details of construction will readily suggest themselves to others skilled in the art and I do not therefore de-

sire to be limited to the exact form of construction herein shown and described.

What I claim as new and desire to protect by Letters Patent of the United States is—

1. In a device of the class described a main frame, twin compression rollers, a conveyer belt for delivering sacks of flour or the like between the said rollers, a delivery box, a partition in said delivery box, a trap door pivoted at the mouth of said delivery box and adapted to be actuated by the weight of a filled sack, so as to automatically deposit the same upon one side of said partition and to allow the next sack to pass upon the other side thereof, a split hopper yieldingly held together and slidably mounted upon the main frame.

2. In a device of the class described a main frame, twin compression rollers, a conveyer belt for delivering sacks of flour or the like between the said rollers, a delivery box, a divided hopper yieldingly held together and slidably mounted upon the main frame, a partition in said delivery box at right angles to the plane of the split in said hopper, a trap door eccentrically pivoted at the mouth of said delivery box and adapted to be actuated by the weight of a filled sack so as to automatically deposit the same upon one side of the said partition and allow the next sack to pass upon the other side thereof.

3. In a device of the class described a main frame, an adjustable pair of twin compression rollers, an upwardly inclined cleated conveyer belt and a second conveyer belt for delivering sacks of flour or the like between said compression rollers, a delivery box, a split hopper yieldingly held together and slidably mounted upon the main frame, a partition in said delivery box at right angles to the plane of the split in said hopper, a trap door eccentrically pivoted at the mouth of said delivery box and adapted to be actuated by the weight of a filled sack so as to automatically deposit the same upon one side of said partition and the next sack upon the other side thereof.

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