

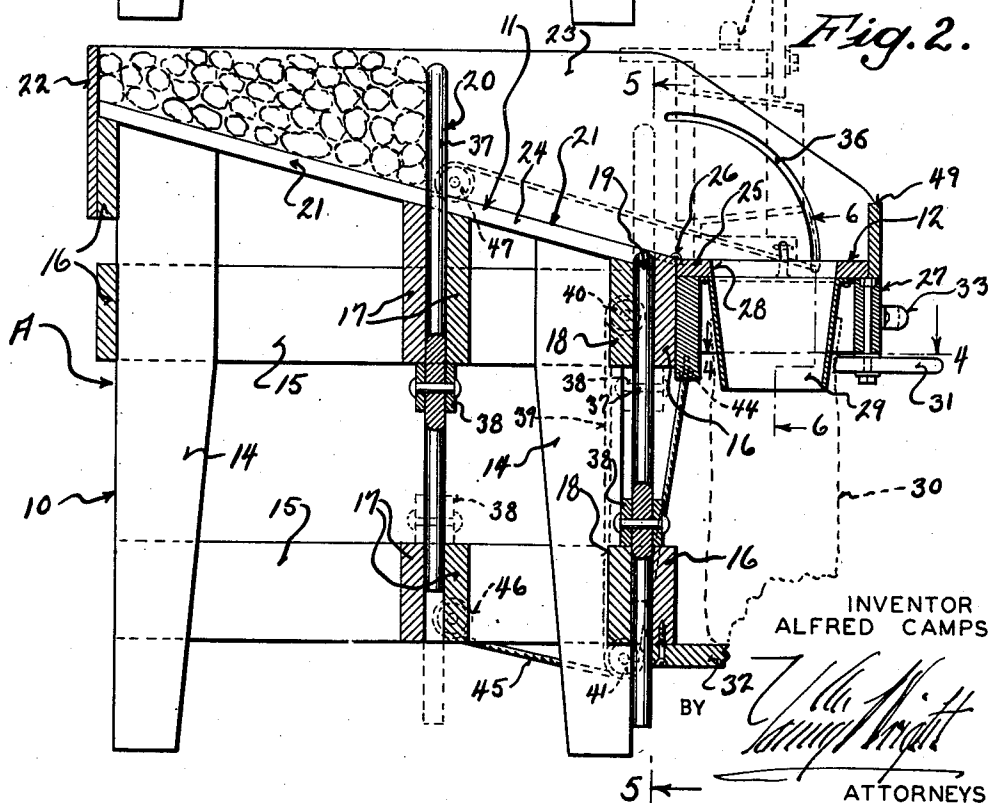
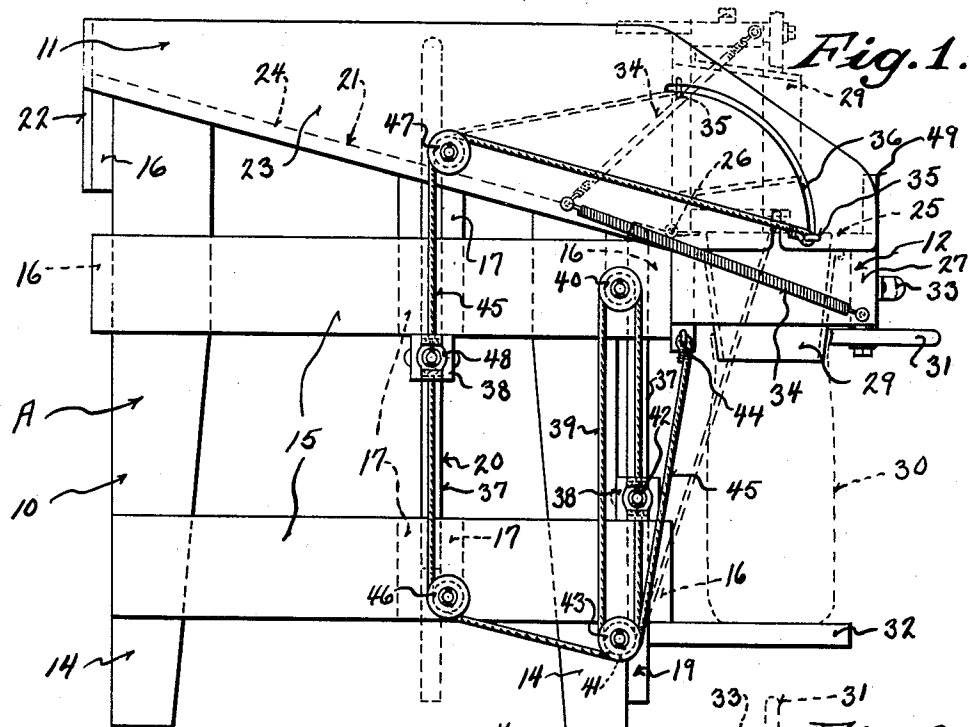
June 26, 1951

A. CAMPS
 DEVICE FOR FILLING A PLURALITY OF BAGS
 WITH A PREDETERMINED QUANTITY OF
 POTATOES OR THE LIKE

2,557,939

Filed May 27, 1949

3 Sheets-Sheet 1



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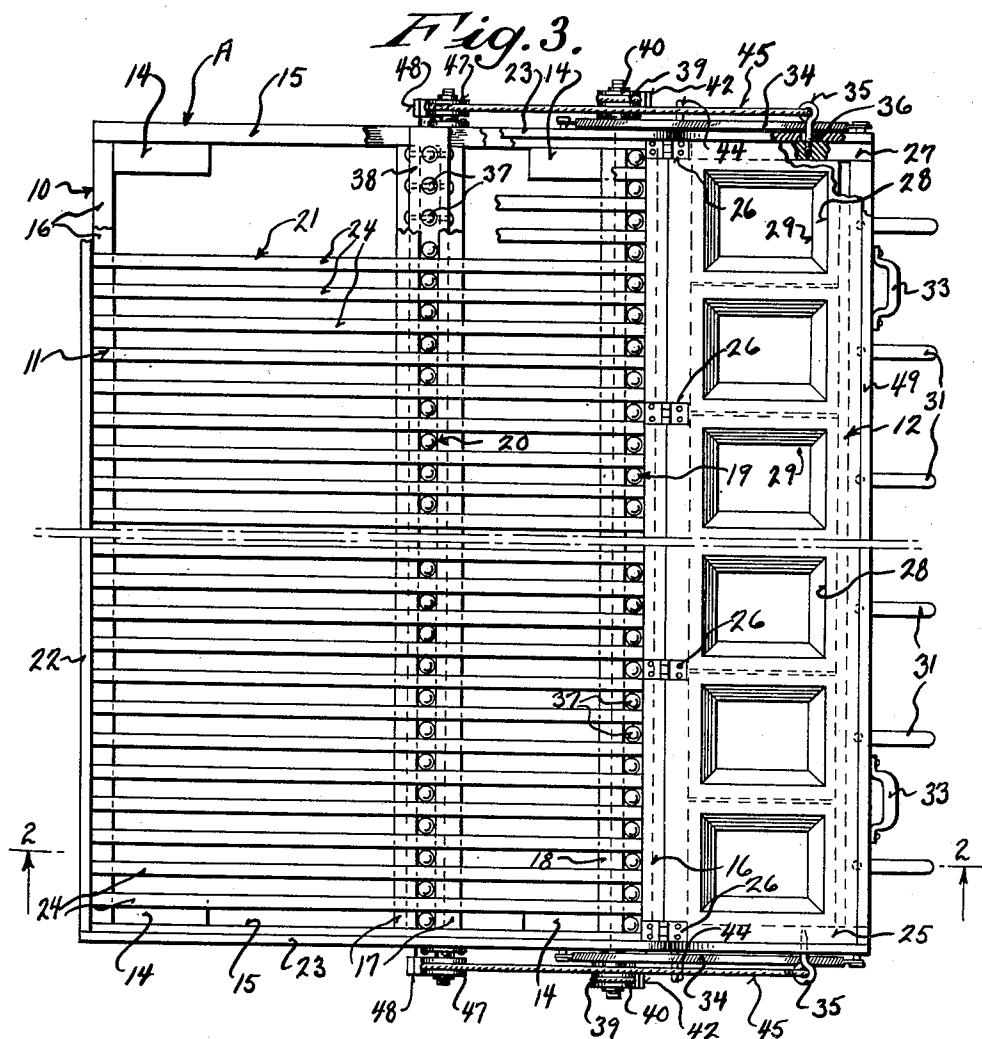
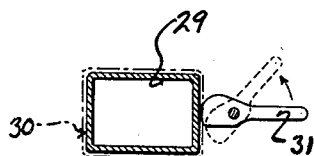


Fig. 4.



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Fig. 5.

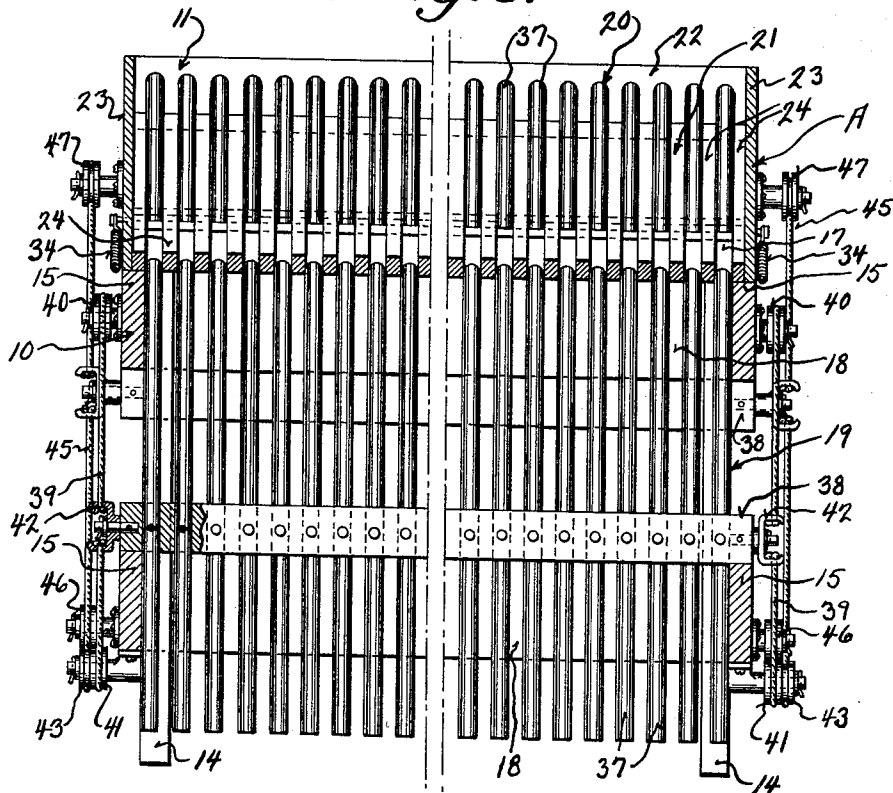
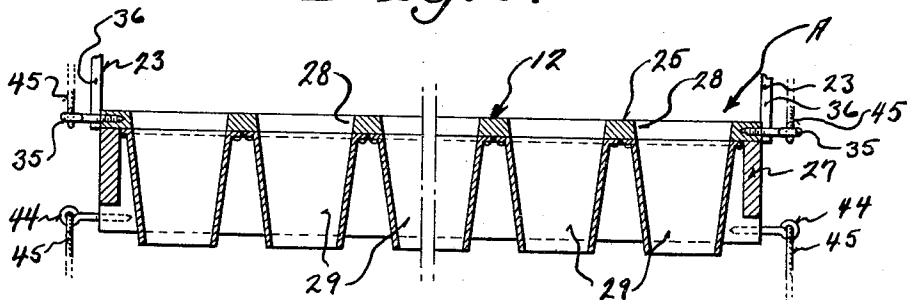


Fig. 6.



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DEVICE FOR FILLING A PLURALITY OF BAGS WITH A PREDETERMINED QUANTITY OF POTATOES OR THE LIKE

Alfred Camps, Milwaukee, Wis.

Application May 27, 1949, Serial No. 95,612

4 Claims. (Cl. 226—58)

1

This invention appertains to a novel device for facilitating the simultaneous filling of a plurality of bags with potatoes, onions, apples, or the like.

One of the primary objects of my invention is to provide a bagging device for filling a series of bags simultaneously with a desired product, such as potatoes, the device being so constructed and arranged that the product will be delivered to the bags in a substantially clean condition, means being provided for permitting the separation of debris from the product as the product is delivered to the bags.

Another object of my invention is to provide a potato, and the like, bagging device embodying a bin for the product to be bagged having a downwardly inclined slatted bottom and means at the forward end thereof for detachably supporting open bags to be filled, with a pair of spaced, vertical gates, movable through the slatted bottom, for controlling the flow of the produce to the bags.

A further object of my invention is to provide means for alternately raising and lowering the gates, so that a pre-determined quantity of the product will be delivered to the bags.

A further important object of my invention is to provide novel means for receiving a plurality of bags at the forward and lower end of the bin including a table having a plurality of funnels for detachably supporting the bags, said table being hingedly connected to the bin to facilitate the placing of the bags on the funnels.

Another further object of my invention is to provide automatic means for operating the gates upon the lowering and raising of the table to its operative and inoperative positions.

A still further object of my invention is to provide a potato, and the like, bagging device of the above character, which will be durable and efficient in use, one that will be simple and easy to manufacture and one which can be placed upon the market at a reasonable cost.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described, claimed and illustrated in the accompanying drawings, in which drawings:

Figure 1 is a side elevational view of my improved bagging device.

Figure 2 is a transverse, sectional view through the apparatus, taken substantially on the line 2—2 of Figure 3, looking in the direction of the arrows.

2

Figure 3 is a top plan view of the bagging device with parts thereof broken away and in section to illustrate structural detail.

Figure 4 is a detail, horizontal, sectional view through one of the filling funnels, the section being taken substantially on the line 4—4 of Figure 2, looking in the direction of the arrows, the view illustrating one form of means for detachably connecting a bag to a funnel.

Figure 5 is a longitudinal, sectional view through my bagging device taken substantially on the line 5—5 of Figure 2 looking in the direction of the arrows.

Figure 6 is a detail, longitudinal, sectional view through the loading table taken substantially on the line 6—6 of Figure 2, looking in the direction of the arrows.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter B generally indicates my novel bagging device, and the same includes a rugged frame 10 for supporting the bin 11 and swinging table 12.

The frame 10 preferably includes corner standards or legs 14, and these legs are firmly united by transverse bracebars 15 and front and rear longitudinally extending bracebars 16. The supporting frame can be braced in other ways, and as illustrated, the transverse bracebars carry and are further braced by upper and lower pairs of spaced longitudinally extending intermediate beams 17.

The front longitudinal beams 16 have arranged in spaced parallel relation thereto, inner bracebeams 18. The pairs of spaced intermediate beams 17 and the pairs of spaced front beams 16 and beams 18 define guideways in which are reciprocatively mounted front and rear gates 19 and 20.

The bin 11 is effectively supported by the corner legs 14 and the uppermost beams 16, 17 and 18. The bin, itself, includes a downwardly and forwardly inclined bottom 21, a rear wall 22 and side walls 23. It is to be noted that the side walls 23 extend forwardly of the inclined bottom wall 21. This bottom wall 21 is formed from equidistantly spaced slats 24, so that spaces will be formed in this wall to permit the falling of debris.

The table 12 is disposed directly in front of the bin 11 at the lower end of the bottom wall 21 and is disposed between the forward ends of the side walls 23. This table consists of a top plate 25, which is hingedly connected by means of hinges 26 to the front edge of the bottom wall 21 of the bin. Consequently, this table can be swung on

the bin to a raised vertical position and to a lowered horizontal position. The table, itself, can be braced by a depending marginal skirt 27, and the rear wall of the skirt is adapted to abut the supporting frame when the table is in its lowered position so as to insure the proper supporting of this table.

At equidistantly spaced points the top plate 25 of the table 12 is provided with like openings 28, and these openings are surrounded by tapered funnels 29, which are secured to the under surface of the plate 25. Bags 30 can be readily slipped on these funnels, and any preferred means can be provided for detachably securing the bags to the funnels. As illustrated, pivoted cam levers 31 are carried by the front wall of the skirt 27, and these levers can be swung into and out of gripping contact with the bags when the same are placed on the funnels.

When the table is swung to its raised, inoperative position, as shown in dotted lines in Figures 1 and 2, then the bags can be readily and easily slipped on to the funnels, as can be readily understood. A rigid platform 32 is arranged below the table and is firmly united to the frame 10, and this platform forms an effective means for supporting the bags during the filling thereof. If desired, manipulating handles 33 can be carried by the table to facilitate the raising and lowering thereof.

To insure the holding of the table, both in its operative lowered position and in its raised position, I provide contractile coil springs 34, at the opposite sides of the frame. The ends of the spring 34 are secured respectively to the side walls 23 of the bin and to the lowered forward corners of the table 12. It can be seen that when the table is swung down, that the springs are positioned below the pivot point of the table and consequently, the springs then function to hold the table down. When the table is swung to its raised vertical position, the springs are above the pivot point of the table, and these springs then function to hold the table in its raised vertical position. The table can be guided during the raising and lowering thereof by means of guide eyes 35 secured to the opposite ends of the table, and these guide eyes extend through arcuate slots 36 formed in the forwardly extending portions of the side walls 23. The end walls of the slots 36 limit the swinging movement of the table. The guide eyes 35 also perform another function as will be later described.

Now referring to the front and rear gates 19 and 20, it is to be noted that each of these gates include a plurality of equidistantly spaced vertical bars 37, and that these bars are so spaced as to ride between the slats 24 of the bottom wall 21 of the bin 11. The bars 37 are united together by longitudinally extending bracebars 38, and these bracebars are confined between certain of the longitudinally extending bracebeams, so that the bracebars will form stops for the gates to limit the raising and lowering movement thereof.

The gates are so arranged that when one is in its raised position, the other will be in its lowered position, and I have provided novel means for automatically operating the gates by the swinging of the table 12. As illustrated, this means includes a pair of front pulley belts 39 for the front gate 19, and these pulley belts are trained over upper and lower pulleys 40 and 41 rotatably carried by the sides of the frame 10 adjacent to the front thereof. The pulley belt 39 is firmly clamped as at 42 to the bracebars 38, of

the front gate. The lower pulleys 41 have connected therewith drive pulleys 43, for a purpose which will also later appear. Obviously, however, during movement of the pulley belt 39, the front gate 19 will be raised and lowered.

Secured by means of eyes or the like 44 to the opposite ends of the table below the hinges 26 are pulley cables 45. These cables are trained over the drive pulley 43 and around lower and upper idle pulleys 46 and 47 carried by the opposite ends of the frame 10 and the bin 11. The forward ends of the cables are in turn secured to the guide eyes 35 heretofore mentioned. The pull cables 45 are firmly united by means of clamps 48 to the bracebars 38 of the rear gate 20, and upon movement of the pull cable, the rear gate will be raised and lowered. At this point it is to be also noted that as the cables 45 pass around the drive pulleys 43 that during movement of these cables 45 the pulley belts 39 will be driven so as to operate the front gate. During the setting up of the bagging device, the gates are initially positioned so that when the table 12 is in its lowered position, the rear gate 20 will be raised, and the front gate 19 will be lowered, as is clearly shown in Figure 2 of the drawings.

In operation of the bagging device, the bin in rear of the gate 20 is filled with the potatoes, or other produce to be bagged, and the potatoes are prevented from rolling down the bin by said rear gate. The table 20 is now swung to its raised position as shown in dotted lines of Figures 1 and 2 and held in such position by the spring 34. The bags 30 are now slipped on the funnels 29, and the cam levers are manipulated so as to hold the bags on the funnels. As the gate is swung to its raised position, a pull is exerted on the cables 45 by the eyes 44, and consequently, the rear gate 20 will be lowered. As the cables 45 travel over the drive pulleys 43 in a counterclockwise direction (referring to Figure 1), these pulleys will be operated, and the pulley belts 39 will raise the front gate 19. Consequently, the potatoes will roll down the bin past the rear gate 20 and will be stopped by the front gate 19. After the bags have been placed on the funnels 29, the table 12 is swung to its lowered position and during this swinging movement of the gate, a pull will be exerted on the cables 45 by the guide eyes 35, and consequently, the rear gate 20 will be moved to its raised position, stopping further movement of the potatoes in rear of said gate. This movement of the cables 45 will rotate the drive pulleys 43 in a clockwise direction (see Figure 1), and the front gate 19 will be lowered. Consequently, the potatoes will roll from the bin on to the top plate 25 of the table 12. The operator of the bagging device can guide the potatoes by hand to the funnels until the bags are filled. The potatoes are prevented from rolling off of the table by the forward ends of the side walls 23 and by a front stop board 49 carried by the table.

From the foregoing description, it can be seen that I have provided an especially simple and durable device for facilitating the simultaneous filling for a plurality of bags. As the machine is easy to operate, the bags can be expeditiously and quickly filled with a minimum amount of effort upon the part of the operator.

Changes in details can be made without departing from the spirit or the scope of this invention, but what I claim as new is:

1. In a device for filling a plurality of bags simultaneously comprising a bin for receiving the produce to be bagged having a downwardly and

5

forwardly inclined bottom wall, a table hingedly secured to the front of said bin for receiving the produce from the bin, a plurality of filling funnels carried by the table and depending therefrom, front and rear sliding gates movable into and out of said bin for controlling the flow of produce to the table, means for raising and lowering the table to facilitate the placing of bags on the funnels and means for automatically and alternately raising and lowering the front and rear gates upon the swinging of the table.

2. In a device for filling a plurality of bags simultaneously comprising a bin for receiving the produce to be bagged having a downwardly and forwardly inclined bottom wall, a table hingedly secured to the front of said bin for receiving the produce from the bin, a plurality of filling funnels carried by the table and depending therefrom, front and rear sliding gates movable into and out of said bin for controlling the flow of produce to the table, means for raising and lowering the table to facilitate the placing of bags on the funnels, means for automatically and alternately raising and lowering the front and rear gates upon the swinging of the table, and means for holding the table in its raised and lowered positions.

3. In a device for filling a plurality of bags simultaneously comprising a bin for receiving the produce to be bagged having a downwardly and forwardly inclined bottom wall, a table hingedly secured to the front of said bin for receiving the produce from the bin, a plurality of filling funnels carried by the table and depending therefrom, front and rear sliding gates movable into and out of said bin for controlling the flow of produce to the table, means for raising and lowering the table to facilitate the placing of bags on the funnels, means for automatically and alternately raising and lowering the front and rear gates upon the swinging of the table, said bottom wall being formed from a plurality of slats to permit the falling of debris from the bin and said

6

gates each including a plurality of spaced vertical bars movable between the slats.

4. In a device for filling a plurality of bags simultaneously comprising a bin for receiving the produce to be bagged having a downwardly and forwardly inclined bottom wall, a table hingedly secured to the front of said bin for receiving the produce from the bin, a plurality of filling funnels carried by the table and depending therefrom, front and rear sliding gates movable into and out of said bin for controlling the flow of produce to the table, means for raising and lowering the table to facilitate the placing of bags on the funnels, means for automatically and alternately raising and lowering the front and rear gates upon the swinging of the table, means for holding the table in its raised and lowered positions, said last named means including upper and lower guide pulleys, pulley belts trained about said guide pulleys, means securing the ends of the front gate to one of the stretches of each belt, drive pulleys connected to certain of the guide pulleys, pull cables trained around the drive pulleys and having the opposite ends secured respectively to the table above and below its pivot point, idle pulleys for said pull cable arranged to provide a vertical stretch, and means securing said vertical stretch to the rear gate.

ALFRED CAMPS.

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