March 25, 1941. R. C. MOORE 2,235,942

SACKING MACHINE

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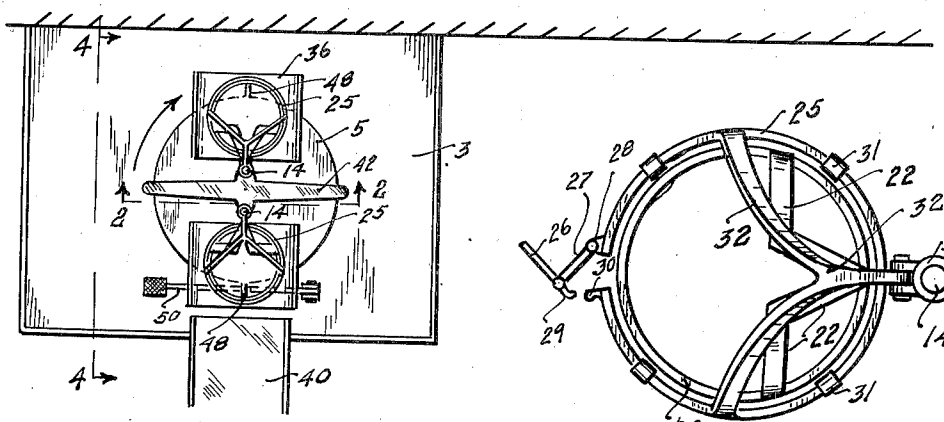


Fig. 1

Fig. 3

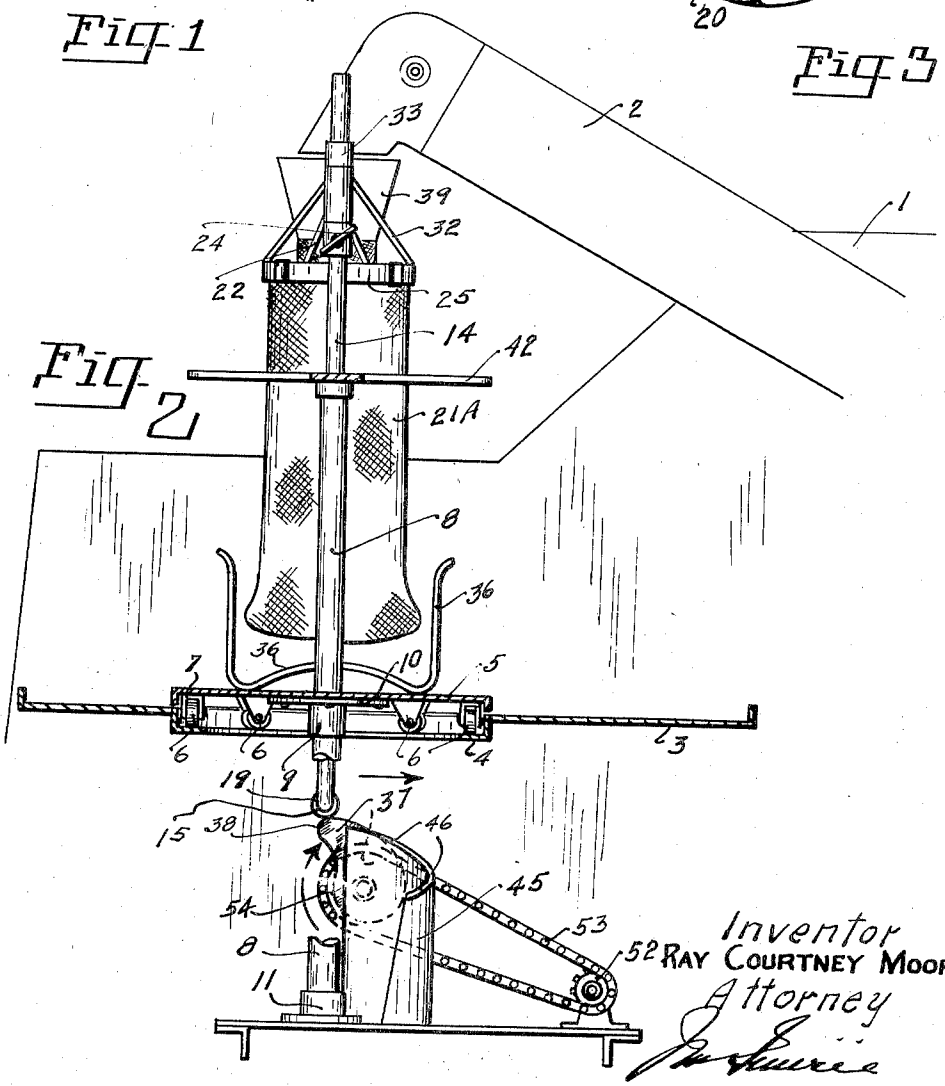


Fig. 2

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Fig 4

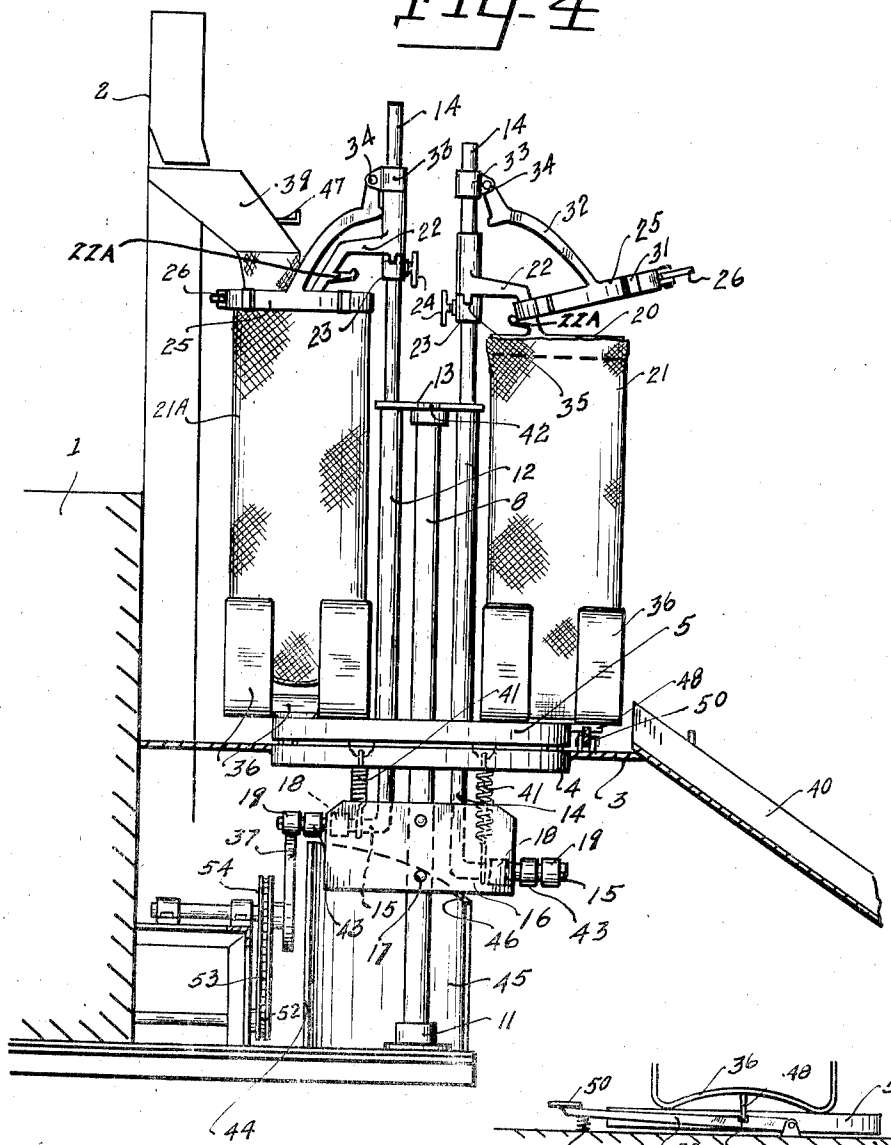


Fig 6

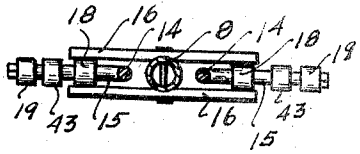


Fig 5

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2,235,942

SACKING MACHINE

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6 Claims. (Cl. 226—55)

This invention relates to sacking machines and is particularly adapted to be used in connection with combines and the like.

The primary object of the invention is to provide a mechanism that will accommodate two or more sack holders thereon.

Another object of the invention is to provide a mechanism wherein while one sack is being filled another sack can be sewed.

A still further object of the invention is to provide a mechanism that will shake the material being filled into the sack towards the bottom of the sack, at the same time the sack is being filled.

A further object of the invention is to combine a sack sewing platform with the sacking operation in one compact unit.

These and other incidental objects will be apparent in the drawings, specification and claims to follow.

Referring to the drawings:

Figure 1 is a plan view of the sacking mechanism mounted on a platform, for instance a combine.

Figure 2 is a sectional view, taken on line 2—2 of Figure 1, looking in the direction indicated.

Figure 3 is a detail plan view of the sack holding clamp.

Figure 4 is an end view, looking in the direction indicated, taken on line 4—4 of Figure 1.

Figure 5 is a plan detail view of the raising and lowering mechanism.

Figure 6 is a fragmentary sectional view of the turntable locking mechanism.

In the drawings:

1 is the combine having the usual grain elevator 2, and the usual sacking platform 3, upon which my new and improved sacker is mounted. Within the platform is built a circular track 4, above which is mounted the platform or turntable 5. The turntable revolves upon the trunnion wheels 6, which are mounted upon the turntable by suitable brackets 7, and run on the circular track 4. A supporting column 8 is fixedly mounted to the center of the turntable 5 by the hub 9, said hub 9 being securely fixed to the turntable by the flange 10. The lower end of the pedestal 8 may be rotatably mounted within the bearing 11. The bearing 11 may not be necessary, but I show the same in this drawing for the purpose of making the assembly more rigid.

Two additional upright columns 12 are fixedly mounted to the top of the turntable 5, having their upper ends connected by the brace 13 to the center column 8. Vertical plungers 14 are slidably mounted within the columns 12. The lower ends of the plungers 14 are extended laterally to form right angle arms 15, which operate between guide plates 16, fixedly mounted on the main column 8 by suitable fastening means 17. Guide rollers 18 are mounted upon the arms 15 and bear against the inner surface of the guide plates 16. On the outer ends of the arms 15, rollers 19 are rotatably mounted, the purpose of which will be later described.

On the upper ends of the plungers 14 are mounted sack holder mechanism, which we will now describe. Circular ring 20, about which the sack 21 is positioned for holding the sack, is mounted on the plunger by the arm 22 and held in an adjusted position by the collar 23 mounted upon the plunger 14. The collar is held in any desired position by the hand set screw 24. After the sack has been placed about the ring 20, a secondary ring 25 is placed thereabout and locked thereon by a lever 26, mounted within the hinged link 27, which in turn is hingedly connected to the band 25 at 28. The end 29 of the lever 26 engages the hook 30 of the opposite end of the ring 25, after which the lever 26 is forced past center bringing the ends of the ring 25 together, similar to a brake band. The friction engagement members 31 will then bear against the sack 1, which is trained about the inner ring 20 locking the same therebetween.

The ring 25 is mounted to a bracket 32, which is pivotally mounted to the slidable sleeve 33 at 34, as shown in Figure 4. The sleeve 33 is raised allowing the bracket 32 and the ring 25 to be moved away from the ring 20, and a holding arm 22A is provided for the purpose of holding this unit in a raised position, so that the sack 21 can be replaced or taken off. Raising the bracket arm 22 upward on the plunger 14, thus disengaging the dog 35, from a corresponding notch within the sleeve 23, allows the revolving of the brackets 22 and 32 about the plunger so that the rings 20 and 25 can be moved away from the sack 21 allowing access to the sack for sewing and removing. The sacks 21 rest upon special guides or receivers 36 that are shaped to conform to the bottom of the sack, and these guides are in turn fixedly mounted to the upper surface of the turntable 5.

In my new and improved sacker, the primary object is to not only hold the sack but also to shake the contents of the sack towards the bottom of the same permitting a more solidly filled sack and this is accomplished in the following manner. The arms 15, having the rollers 19 mounted thereon, are brought into engagement with a cam 37, and as the cam revolves in the direction indicated it will raise the arms 15 and the plungers 14, as shown in Figures 2 and 4. When the cam reaches the point shown in Figure 2, the rollers 19 will drop off of the end 38 allowing the plunger 14 to fall quickly dropping the bottom of the sack upon the receiver or bracket 36. This forces the contents of the sack towards the bot-

tom, packing the same as if it were being done by hand. By observing the shape of the cam it will be noted that as the cam revolves it will repeat this operation, raising the plunger slowly and dropping it quickly. The plunger or sack holder that is registered with the filling spout 39 is the one that will be agitated as just described. The opposite sack holder, which is one hundred and eighty degrees opposite, will be stationary, as its raising and lowering mechanism is out of engagement with the cam 37. This permits the disengagement of the sack from the holding rings and revolving them out of position, as before described, and the sewing of the sack by the sewer can then be accomplished, after which the sack is tipped over into the chute 40 and another sack secured to the rings 20 and 25 and locked thereto as heretofore described.

In order to settle the materials being filled into the sack towards the bottom of the sack it is desirable to drop the sack forceably after the cam 37 reaches the top, but it is also desirable to hold the upper part of the bag under tension when this operation takes place. Therefore the plungers 14 are held in raised position by the springs 41, having their upper ends secured to the lower side of the turntable 5 and their lower ends connected to the arms 15 of the plungers 14. When the sack under the hopper 39 is filled to the desired point the operator or sack tender takes hold of the handles 42 and revolves the turntable 5 one hundred and eighty degrees in the direction of the arrows. This movement can not take place until the cam 37 has raised the arm 15 to the top position, due to the fact that the roller 43 engages the front surface 44 of the frame 45, best shown in Figures 2 and 4, when the arm 15 reaches the top. The rollers 43 can then be forced over and upon the inclined surface 46 of the frame 45. The downward weight of the filled sack 21A will assist in the revolving of the turntable from there on due to the fact that the roller 43 holding the arm 15 from downward movement will be running down the inclined surface 46.

A suitable shut-off valve 47 is provided for shutting off the supply while the turntable is being revolved, taking a filled sack away and bringing in an empty one underneath the spout 39.

The cam 37 is driven by the driving sprocket 52, which may be any suitable drive relative to the combination of the sacker with the combine. A chain 53 drives the sprocket 54, which is fixed to the cam 37.

The turntable 5 is held from turning by locking dogs 48 underneath the brackets 36. The dogs 48 register with notch 49 of the foot pedal 50, and when the foot pedal 50 is pushed down against the spring 51 the notch 49 will be released from the dog 48 permitting the turntable 5 to be revolved.

I do not wish to be limited to this particular form of mechanical embodiment, as other types of construction could be employed, still coming within the scope of the claims to follow.

What is claimed to be new is:

1. A machine for supporting sacks for filling, including a turntable, hollow volumns rising in spaced parallel relation from the turntable, a rod slidably movable in each hollow column, means adjacent and beyond each hollow column for receiving the lower end of a bag, means carried on each rod above its hollow column to fix a bag with respect to the rod with its open end in position for filling, the lower end of each rod being extended laterally, a roller on the end of each lateral terminal of the rod, a jogging cam to cooperate with the roller of one rod, a guide to maintain the laterally projected portions of both rods in substantial transverse alignment, a frame, the upper edge of the frame being inclined transversely from the cam, and a roller on each lateral extension of the rod to engage the inclined edge of the frame, whereby when the rods are operated to raise them relative to the frame, the second mentioned rollers will negage the inclined edge of the frame and assist in reversing the bag position in manual movement of the turntable.

2. A machine for supporting sacks for filling, including a turntable, columns rising in spaced relation from the turntable, a rod slidably associated with each column, means adjacent and beyond each column for receiving the lower end of a bag, means carried on each rod above its column to fix a bag with respect to the rod with its open end in position for filling, a jogging cam cooperating with the rod to elevate the rod and connected bag and permit the rod and bag to fall for packing the contents of the bag, and means connecting the rod to a fixture to tension the bag during the jogging operation.

3. A construction as defined in claim 2, wherein the bag tensioning means includes a spring connected at one end to a fixture and at the opposite end to the rod.

4. A machine for supporting sacks for filling, comprising a turntable, hollow columns extending upwardly from the turntable, a rod extending through each hollow column and beyond the end of same and below the turntable, means carried by each rod for holding a bag, means on the turntable adjacent each hollow column for receiving a bag, the lower end of each rod carrying a pair of rollers, a cam adapted to engage one of the rollers on each rod to raise same to effect a jogging of the bag to settle the contents while being filled, a cam track with which the other one of the pair of rollers on each rod engages when removing the first mentioned roller of the pair from the influence of the revolving cam and to gradually lower the rod and the filled bag to a normal position in its seat on the turntable, manual means for rotating the turntable to alternately bring the respective rollers in cooperative relation with the cam and cam track.

5. A machine for supporting sacks for filling, including a turntable, means for manually rotating the turntable, bag supporting rods movable through and beyond the turntable, the lower ends of the rods extending below the turntable, means carried by the upper ends of the rods to fix a bag in relation to each rod, means providing for elevating the rods from a lower position to a higher position, a cam adapted to engage the lower ends of the rods in succession when raised to the higher position, said cam being operable to subject the rod engaged thereby to a jogging action for material packing purposes within the bags, and means whereby the bag fixing means is adjustable longitudinally of the rods.

6. A construction as defined in claim 5 wherein the lower ends of the rods are laterally projected and wherein the bag jogging means includes a roller on the laterally projected end of each rod to engage the cam, the cam gradually elevating the rod cooperating therewith and then abruptly releasing the same.

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