July 1, 1941. E. G. GEISENDORFF 2,247,879

SACKING DEVICE

Filed March 17, 1939 2 Sheets-Sheet 1

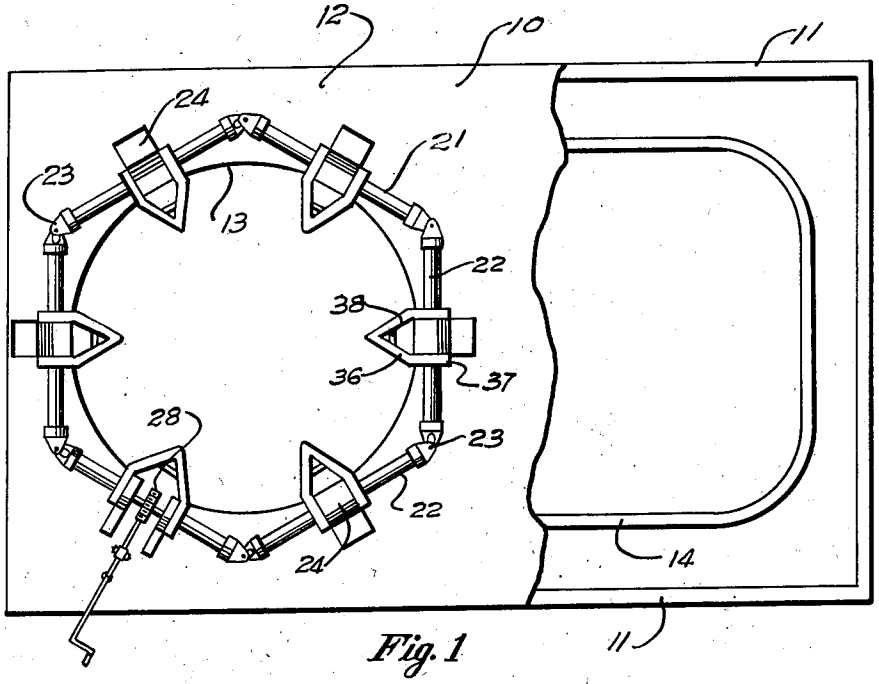


Fig. 1

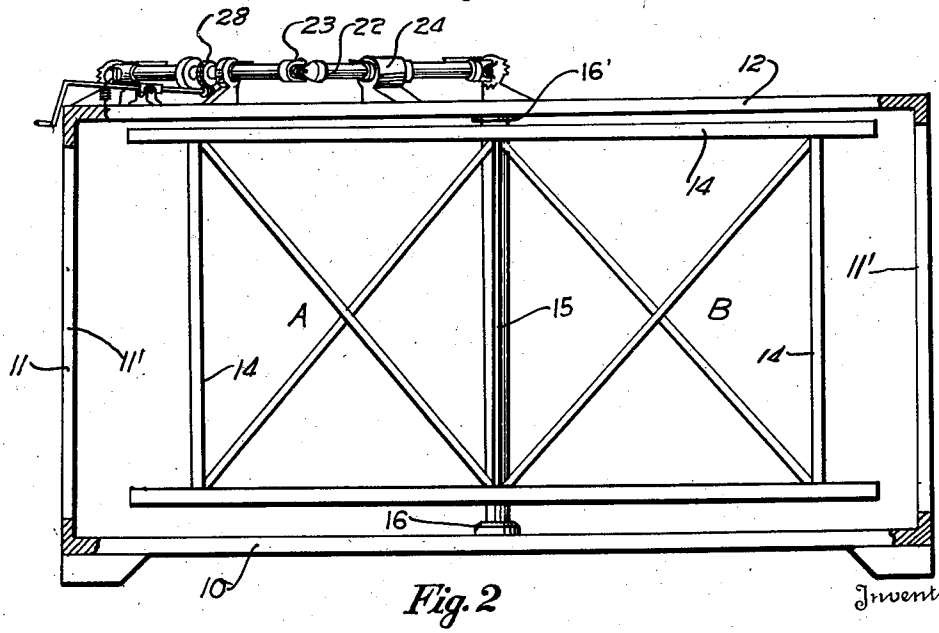


Fig. 2

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SACKING DEVICE

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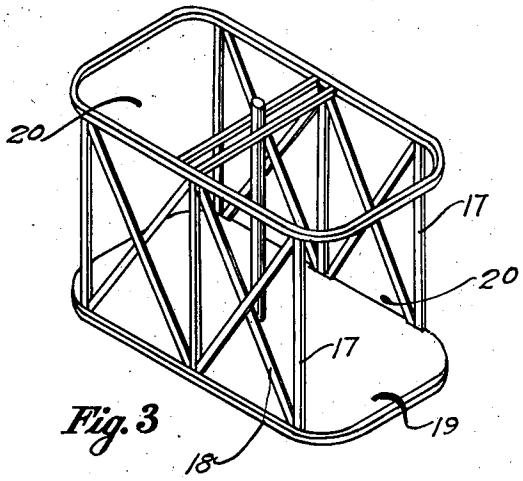


Fig. 3

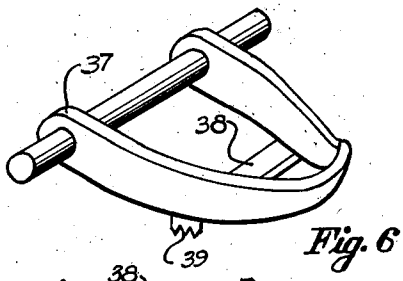


Fig. 6

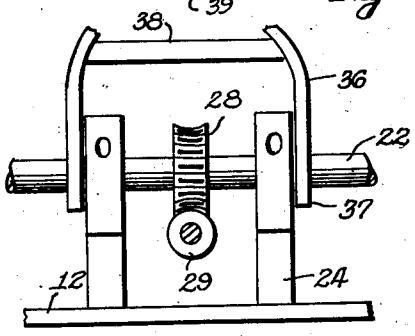


Fig. 7

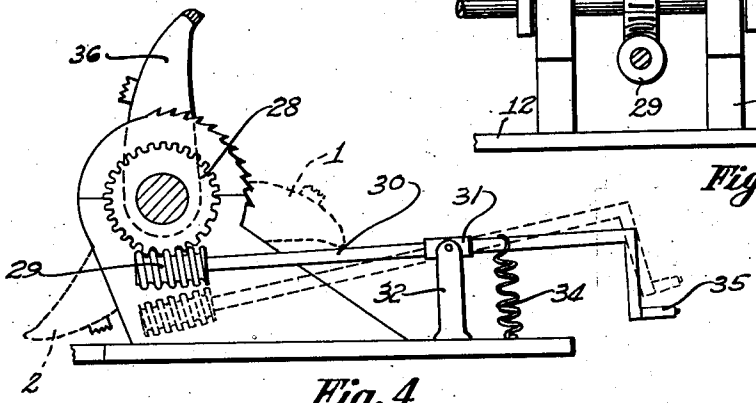


Fig. 4

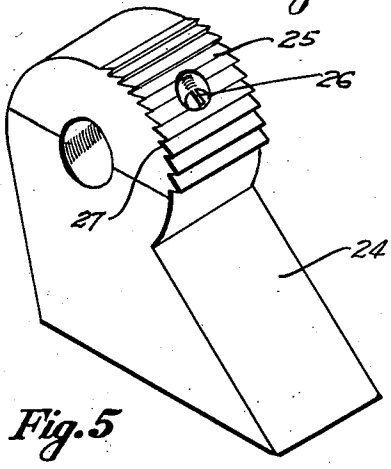


Fig. 5

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UNITED STATES PATENT OFFICE

2,247,879

SACKING DEVICE

Ernest G. Geisendorff, Bellville, Tex.

Application March 17, 1939, Serial No. 262,408

5 Claims. (Cl. 226—61)

This invention relates to new and useful improvements in sacking devices.

In all production activities where it is necessary to place a material in a sack or cloth container some means must be provided for holding said sack in an open or distended position so that it may be filled with said material. This invention embodies such means and is particularly adaptable to handling large sacks such as are used for wool and various other fibers and materials.

One object of the invention, therefore, is to provide an improved sacking device which will hold the mouth of the sack in an open position and which may be easily and quickly operated.

Another object of this invention is to provide an improved sacking device wherein the mouth of the sack is held firmly in an open position by means which obviates the danger of tearing the sack.

A further object of this invention is to provide an improved sacking device which includes a rotatable sack support for holding a plurality of sacks and arranged that each sack may be successively swung under the sack holding mechanism; thus, allowing the sack-filling operation to be substantially continuous and diminishing the time necessary to remove a sack already filled and replace it with an empty sack.

Another object of this invention is to provide an improved sacking device wherein it is not necessary to impose the entire weight of the sack, particularly when loaded upon the holding means, and the danger of tearing or injuring the sack is thus eliminated; and wherein means are provided for releasing the sack quickly and positively.

A still further object of this invention is to provide an improved sacking device wherein the mouth of the sack is held spread by fingers or dogs, said fingers being coactive, and being controlled by a single mechanism; said fingers also being formed with blunt ends so that they will not puncture or tear the sack.

A construction designed to carry out the invention will be hereinafter described, together with other features of the invention.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawings, in which an example of the invention is shown, and wherein:

Figure 1 is a view of the invention, partly in plan and partly in section,

Figure 2 is a side elevation of the same,

Figure 3 is an isometric view of the sack-supporting framework,

Figure 4 is an enlarged, transverse, sectional view of the finger motivating mechanism,

Figure 5 is an enlarged isometric view of one of the shaft supports,

Figure 6 is an enlarged isometric view of one of the sack-supporting fingers, and

Figure 7 is an enlarged side elevation of a portion of the finger-motivating mechanism.

In the drawings the numeral 10 designates a table, housing or frame having sides 11 and open ends 11' and a solid top or deck 12. The deck 12 is formed with a circular opening 13 which is adjacent one end of the housing 10. A sack support or carrier 14, which is slightly smaller in its outside dimensions than the frame 10, is pivotally mounted at its center within the frame upon a vertical shaft 15; said shaft being journaled into the frame 10 by bearings 16 and 16' at either end thereof, whereby said carrier 14 is free to rotate within said frame. The carrier 14 is divided into two compartments A and B by the shaft 15, and is so mounted within the frame, that upon rotation of said carrier the compartments A and B are alternately swung under the circular opening 13. With this arrangement a sack may be dropped through this opening into either compartment A or compartment B, depending upon which is under the opening. The carrier is constructed of suitable cross-members 17 and diagonal members 18, so as to give it sufficient rigidity, and has a solid bottom 19 which serves to support the sack (not shown). The ends 20 of the carrier are formed open without any diagonal members so that the filled sacks may be removed through the open ends 11' of the housing. This feature of the invention allows the removal of the filled sacks with a minimum amount of effort and a subsequent conservation of energy. The open sides 11 of the frame 10 allow the carrier 14 to be rotated in said frame.

The sack-holding mechanism 21 is mounted on the deck 12 about the circular opening 13. Said mechanism 21 includes a plurality of angularly disposed rock shafts 22, each shaft being substantially tangential to the opening 13, and being connected to its fellow shafts by universal couplings 23 at each end. Thus, the shafts form a continuous operating mechanism; and rotation of any one of the shafts necessarily results in the rotation of all of the shafts. The shafts are supported upon the deck 12 by a plurality

of bearing blocks 24 which act as bearings, and are formed with their upper portions or caps 25 separate from their lower portions and fastened thereto by screws 26. Thus, the removal of the screws 26 and the caps 25 of the bearing blocks 24 will permit the ready removal of the shafts 22. The caps 25 have serrations 27 on their outer periphery, the purpose of which is explained hereinafter.

One of the rock shafts 22 is provided with a worm gear 28 mounted on its mid-portion. This worm gear is engaged by a worm 29 mounted on the extreme end of a shaft 30 which extends at right angles to the rock shaft and is journaled in a bearing sleeve 31 pivotally mounted on the deck 12. The bearing sleeve 31 is pivoted in a standard 32 upon trunnions, whereby the said sleeve and shaft may be swung to disengage the worm 29 from the gear 28. A spring 34 is connected with the deck and the shaft 30 so as to continually urge the outer end of the shaft downward and hold the worm 29 in mesh with the worm gear 28. The extreme outer end of the shaft 30 is provided with a crank handle 35, whereby said shaft may be rotated by hand. With the shaft in its normal position, wherein the worm 29 and the worm gear 28 engage, rotation of said shaft will cause rotation of the worm which in turn will rotate the worm gear and the rock shaft carrying said worm gear. The rotation of the rock shaft carrying the worm gear will cause all of other rock shafts to rotate by means of the universal joints 23 connecting said rock shafts.

V-shaped dogs 36 having bearing ears 37 on their free ends and straddling the bearing blocks 24 are rigidly mounted on the mid-portion of the rock shafts 22 so as to rotate with said shafts. A cross bar 38 having serrations 39 on its under side is mounted on the bottom of each dog near the apex of the V.

In the operation of the device the crank handle 35 is rotated until the dogs 36 are in the upright position shown in Figure 4. A sack is dropped through the circular opening 13 in the deck 12 and the rim of its mouth or open end is hooked over the upwardly extending dogs 36, and folded down over the upper ends of the dogs and held by the bars 38 and the serrated surfaces 39. The crank handle 35 is then rotated to swing the dogs radially and outwardly to the position 1 shown in dotted lines in Figure 4, whereby the side walls of the sack are pulled down onto the serrations 27 on the caps 25. As material is placed in the sack through the opening 13 the weight of said material will tend to pull the sack downwardly and hence pull it tighter against the serrations 39 and 27, whereby the mouth of the sack is securely held and spread.

When the sack has been filled the outer end of the shaft 30 is swung downwardly, thus disengaging the worm gear 28 and the worm 29. This leaves the rock shaft 22 free to turn, and if the weight of the sack is not sufficient to rotate said shafts and the dogs 36, to swing said dogs to the position 2, shown in Figure 4, the operation may be manually performed. This leaves the mouth of the sack free, and it may be easily disengaged from the dogs. The carrier 14 is now rotated about the vertical shaft 15, thus bringing the other compartment B under the opening 13, whereby another sack may be placed in position on the dogs 36, and the operation is repeated. The filled sack may be removed from compartment A through the open ends 20 and 11' and sewed or otherwise fastened up.

As has been shown in the above disclosure this device allows the quick handling of sacks while filling the same and the elimination of the danger of tearing the sack. It is pointed out that by the use of this device there is no delay in removing the sack, also one sack may be filled while the other is being removed.

Various changes, alterations and modifications may be made in the size, shape and arrangement of the herein described elements, within the scope of the appended claims.

What I claim and desire to secure by Letters Patent is:

1. In a sacking device, an elongate frame having a deck provided with an opening at one end, a rotatable sack holder mounted in the frame arranged to hold a plurality of sacks, one of which is supported below the opening in the deck of the drame, a plurality of vertically movable dogs mounted on the frame deck and spaced around said opening, said dogs having means for engaging and holding the mouth of said sack, and means for swinging said dogs to support the mouth of the sack.

2. In a sacking device, an elongate frame having a deck provided with an opening at one end, a rotatable sack holder mounted in the frame arranged to hold a plurality of sacks, one of which is supported below the opening in the deck of the frame, a plurality of vertically movable dogs mounted on the frame deck and spaced around said opening, said dogs having means for engaging and holding the mouth of said sack, and means for swinging said dogs upwardly and outwardly to support the mouth of the sack.

3. In a sacking device, an elongate frame having a deck provided with an opening at one end, a rotatable sack holder mounted in the frame arranged to hold a plurality of sacks, one of which is supported below the opening in the deck of the frame, a plurality of vertically movable dogs mounted on the frame deck and spaced around said opening, said dogs having means for engaging and holding the mouth of said sack, means for swinging said dogs to support and spread the mouth of a sack, and means for simultaneously moving said dogs.

4. In a sacking device, an elongate frame having a deck provided with an opening at one end, a rotatable sack holder mounted in the frame arranged to hold a plurality of sacks, one of which is supported below the opening in the deck of the frame, a plurality of vertically movable dogs mounted on the frame deck spaced around said opening, said dogs having means for engaging and holding the mouth of a sack, means for swinging said dogs upwardly and outwardly to support the mouth of a sack, and means for simultaneously moving said dogs.

5. In a sacking device, an elongate frame having a deck provided with an opening at one end, a rotatable sack holder mounted in the frame arranged to hold a plurality of sacks, a plurality of connected dogs mounted on the frame deck and spaced around said opening, said dogs having means for engaging and holding a mouth of a sack, and means for simultaneously moving the dogs.

ERNEST G. GEISENDORFF.