Nov. 21, 1933. C. A. DU VANDER 1,935,836

SACKING MACHINE

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Fig. 1

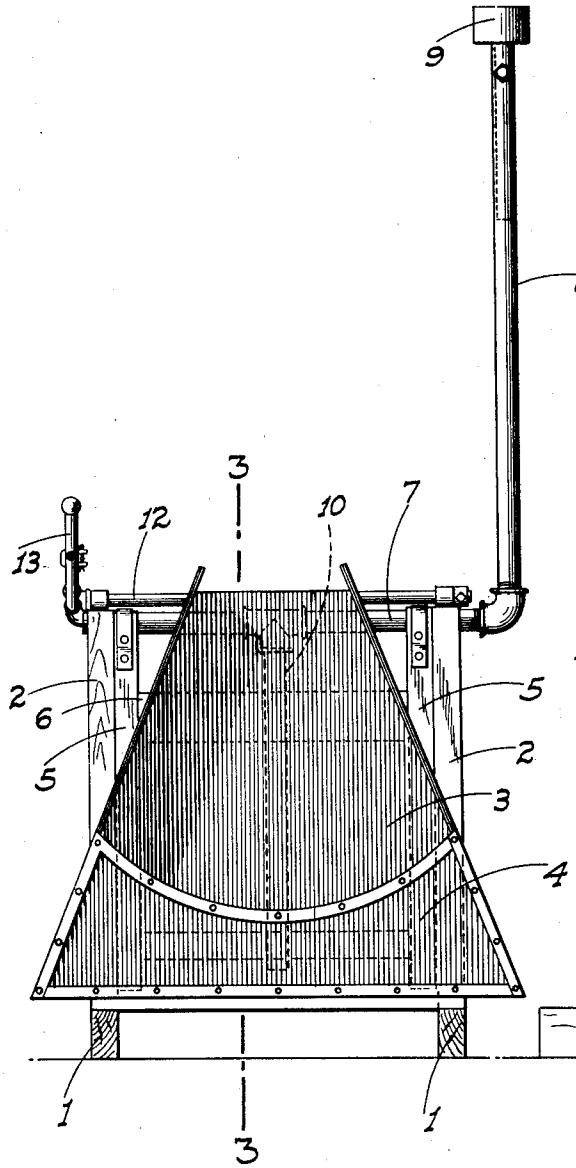
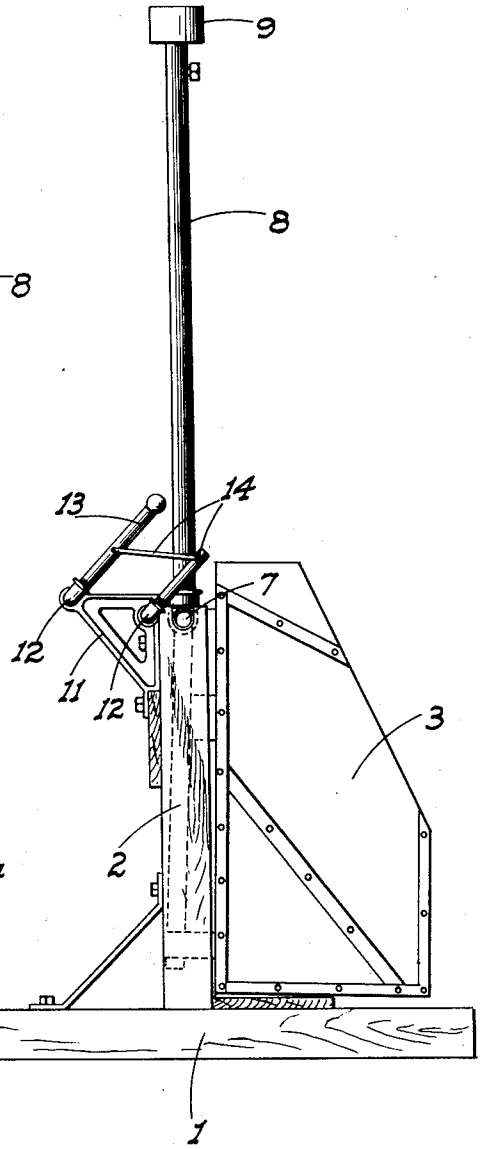


Fig. 2



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Fig. 3

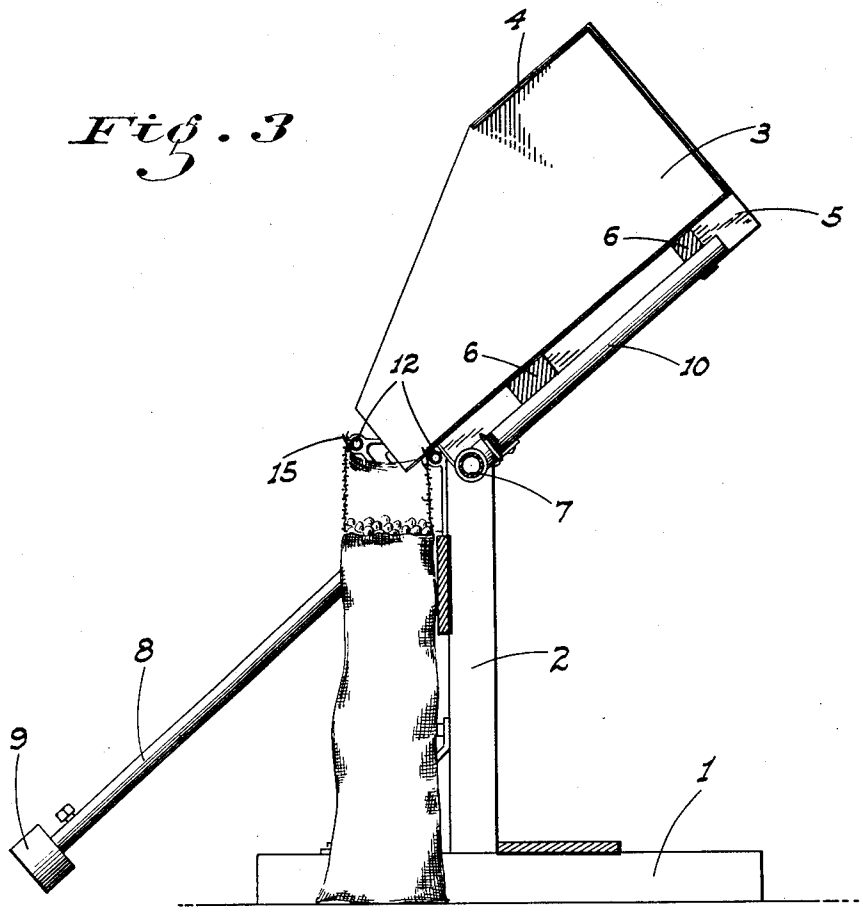


Fig. 4

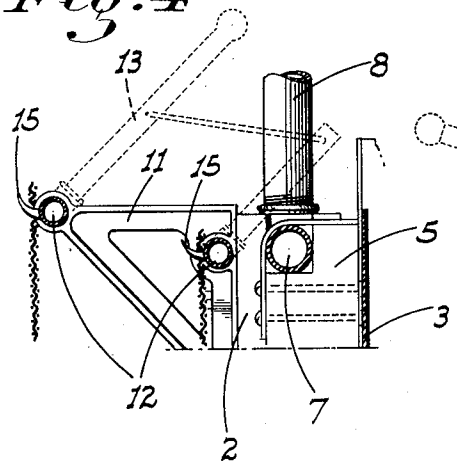
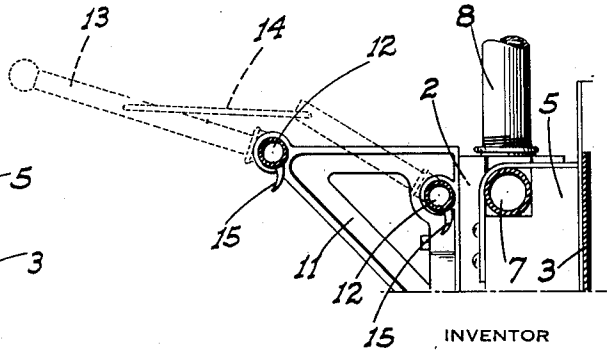


Fig. 5



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UNITED STATES PATENT OFFICE

1,935,836

SACKING MACHINE

Charles A. Du Vander, Santa Rosa, Calif.

Application February 20, 1932. Serial No. 594,270

3 Claims. (Cl. 226—58)

This invention relates to machines for aiding in filling sacks with loose bulk material and has been especially designed for use in connection with dried prunes and like products though it can be used with equal effectiveness for other products of any nature which are ultimately sacked after having been stored in bins or heaped on a floor.

The principal objects of my invention are to provide a machine for the purpose which will insure the filling of the sacks in a quicker manner than is at present possible, with the use of less manual labor, without the danger of the products spilling from the mouth of a sack as they are discharged therein; one which is easy to operate and one which may be made either as a portable or a permanently mounted structure as may be desired.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a front elevation of the machine showing the bucket in position to be loaded.

Fig. 2 is a side view of the machine with the bucket in a similar position.

Fig. 3 is a transverse section of the machine on the line 3—3 of Fig. 1 showing the bucket as tipped and discharging into a sack.

Figs. 4 and 5 are fragmentary side views showing the sack hanging device, with the latter in its sack-supporting and releasing positions respectively.

Referring now more particularly to the characters of reference on the drawings, the machine comprises a pair of spaced horizontal supporting beams 1 from which standards 2 project upwardly intermediate their ends. These parts form the frame work of the machine and are suitably connected together and braced to form a rigid unit. The beams 1 may rest directly on a floor and be either loose or secured thereto or may be provided with castor wheels for easy movement as may be desired.

The loading bucket 3 is preferably a sheet metal member with angle iron framing about its edges. It is relatively wide and deep at the bottom and tapers both laterally and transversely toward the top. Said top is freely open as is the front of the bucket down to a relatively low concavely curved front plate 4 over which the products must be shoveled to enter the bucket.

The bucket is normally disposed in a vertical position in front of the uprights 2 and at the bottom, which then rests against the standards 2 it is wider than the spacing between the uprights and beams. The back of the bucket which is unbroken from the bottom to a point short of the top is reinforced by vertical beams 5 secured against the same and fitting closely between the uprights 2, and by transverse beams 6 extending between the beams 5 at vertically spaced intervals.

A horizontal shaft 7, preferably in the form of a pipe, is journaled on the uprights 2 at the top and is recessed in and strapped against the beams 5 at the top. At one end beyond the corresponding upright 2 the shaft is provided with an operating lever 8, which extends substantially parallel to the back of the bucket and is provided at its outer end with an adjustable counter weight 9. Centrally between the beams 5 the pipe 7 has a depending pipe 10 rigidly secured thereto which abuts against the upper cross beam 6 and is recessed in and strapped against the lower cross beam.

The shaft 7 thus forms a pivotal support for the bucket about which the latter may be tipped upwardly to a position above a horizontal plane by depressing the lever, or so that the back of the bucket then temporarily forms the bottom of the same having a downward slant toward and projecting beyond the back side of the frame standards as shown in Fig. 3. The provision of the reinforcing beams 5 and 6 and the depending extension 10 from the pipe 7 gives the back of the bucket proper support when the shaft is turned and avoids any possibility of the bucket being warped; the extension 10 taking considerable strain which would otherwise be placed on the shaft straps.

Pivoted in brackets 11 secured against the back side of the standards 2 at the top are horizontally transversely spaced and relatively small shafts 12, the shaft nearest the standards being preferably somewhat lower than the outer one. A hand lever 13 projects upwardly from one end of the outer shaft and is connected to the inner one so that both will turn together and to the same extent by suitable linkage 14. Longitudinally spaced prongs 15 project rearwardly from the shafts in position and of a number to engage sacks of different sizes at their mouths and hold the same extended. The prongs are arranged so that when the handle 13 is thrown forwardly said prongs project rearwardly to a sack-engaging position, as shown in Fig. 4. When the handle is pulled back the prongs are turned so that they

depend straight down, as shown in Fig. 5, causing the sack to drop of itself from engagement with said prongs.

The width and depth of the top of the bucket which forms the discharge mouth of the same when tipped, is such that said mouth is disposed wholly within the vertical plane of the mouth of the sack so that there is no danger of the products as discharged missing the sack and dropping outside the same. The general shape of the bucket with its wide bottom, low front and relatively narrow discharge mouth gives the same large carrying capacity when being loaded without the operator having to lift the loading shovel high above the ground at any time or having to control the discharging movements of the shovel very closely. At the same time the discharge of the products into the small mouthed sacks is assured without any particular care being necessary.

Sacking operations may therefore be carried out very quickly and while one worker shovels the products into the bucket more or less at random, another one may be removing a filled sack and placing an empty one in position back of the bucket. A downward pull on the lever 8 when the bucket is filled and the consequent tilting of the bucket to a discharge position then automatically effects the discharge of the products from the bucket into the sack.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described my invention what I claim as new and useful and desire to secure by Letters Patent is:

1. A sacking machine including spaced standards, a bucket normally sitting in a vertical position in front of the standards, a shaft turnably mounted on top of the standards, reinforcing members abutting against and secured to the back of the bucket, the shaft being secured to certain ones of said members, an extension rigid with and depending from the shaft intermediate the side edges of the bucket and abutted against other ones of said reinforcing members, means to turn the shaft so that the bucket may be tilted upwardly and beyond a horizontal position so that its top then forms a discharge mouth, and elements to engage the mouth of a sack to hold the same distended, mounted in connection with the standards in position to maintain the mouth of a sack in vertical alinement with the mouth of the bucket when the latter is tilted.

2. A sacking machine including spaced standards, a bucket normally sitting in a vertical position in front of the standards, a shaft turnably mounted on the standards and rigidly secured to the back of the bucket, means to turn the shaft whereby the bucket may be tilted upwardly and beyond a horizontal position, and so that its top then projects rearwardly of the standards to form a discharge mouth, a pair of horizontally spaced shafts parallel to and rearwardly of the first named shaft, and below the location of the bucket mouth when the bucket is tilted, sack engaging prongs projecting radially from said last named shafts in longitudinally spaced relation thereon, and means to turn said pair of shafts together to cause the prongs to be moved from horizontal to depending positions at will.

3. A device to facilitate the filling of sacks including a bucket having a back wall, side walls, a bottom wall and a short front wall, relatively low at the center between the side walls at the lower end thereof, the upper ends of the side walls forming a discharge mouth with the adjacent portion of the back wall, vertical supporting posts to the sides of the bucket, pivotal connection means between the bucket and posts at such a height that when the bucket is tilted so that the back wall is vertical the bottom wall will lie adjacent the ground level, means to tilt the bucket from such position so that the back wall will have a downward slope toward its discharge mouth, and means mounted on the device to support a sack for filling engagement with the mouth when in said position.

CHARLES A. DU VANDER.