Nov. 29, 1938. A. C. VAN HOOYDONK 2,138,798

MEAT MIXING MACHINE

Filed Sept. 11, 1937

Fig. 1.

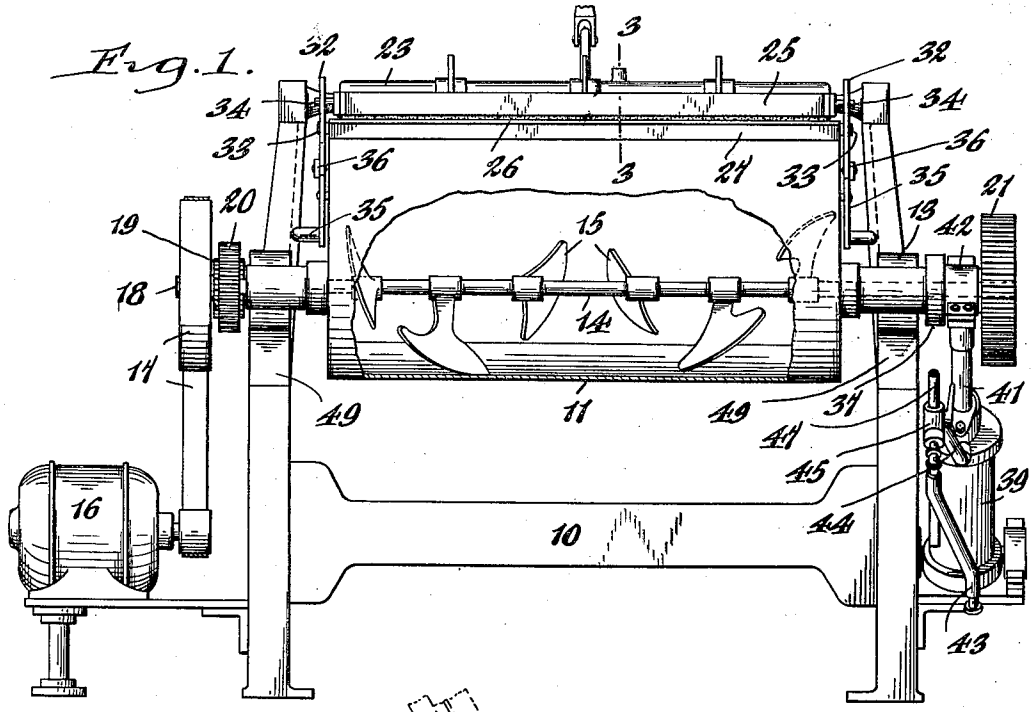


Fig. 2.

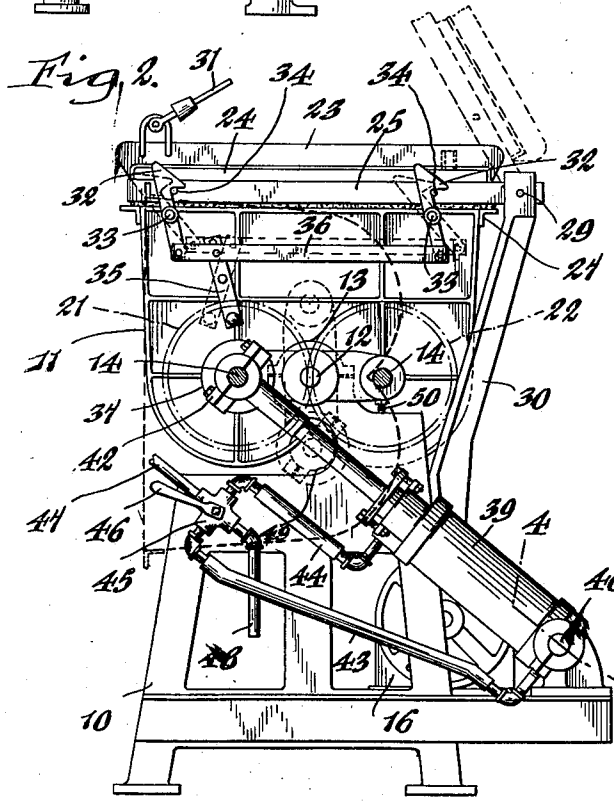


Fig. 3.

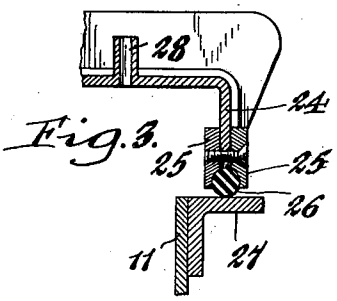
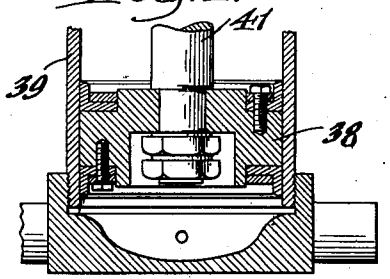


Fig. 4.



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Patented Nov. 29, 1938 2,138,798

UNITED STATES PATENT OFFICE

2,138,798

MEAT MIXING MACHINE

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Application September 11, 1937, Serial No. 163,416

1 Claim. (Cl. 259—104)

This invention relates more particularly to improvements in meat mixers of the type having a tiltable tub for facilitating the dumping of its contents.

It has for one of its objects to provide a machine of this character having simple and efficient means for effecting the automatic tilting movement of the tub to and from its discharge or dumping position.

Another object of the invention is to provide a tiltable tub meat mixer having fluid-operative means for effecting the tilting of the tub.

Other features of the invention reside in the construction and arrangement of parts hereinafter described and particularly pointed out in the appended claim.

In the accompanying drawing:

Figure 1 is a sectional front elevation of a meat mixer embodying my invention. Figure 2 is an end view thereof. Figure 3 is an enlarged fragmentary cross section taken on line 3—3, Figure 1. Figure 4 is an enlarged fragmentary cross section taken on line 4—4, Figure 2.

Similar characters of reference indicate corresponding parts throughout the several views.

By way of example, the invention is shown in connection with a meat mixer of well known type consisting of a frame 10 on which is mounted a tiltable tub 11 for the meat to be treated, the tub being provided at its ends with centrally-disposed trunnions 12 which are journaled in suitable bearings 13 applied to the ends of the frame. Arranged side by side in the lower portion of the tub and at opposite sides of the trunnion axis are parallel shafts 14, 14 carrying spirally-disposed paddles 15 which are driven from an electric motor 16 in any well-known manner. As shown in the drawing, for example, the motor is connected by a belt and pulley 17 with a centrally-disposed shaft 18 journaled in one end of the frame and on which is mounted a pinion 19 meshing with a gear 20 applied to adjoining end of one of the paddle-shafts 14, the opposite end of said shaft having a gear 21 thereon meshing with a similar gear 22 mounted on the adjoining end of the companion paddle-shaft 14. The right hand trunnion 12 and corresponding ends of the paddle-shaft extend outwardly beyond the frame for a purpose which will hereinafter appear.

During the treatment of the meat within the tub it is desirable to mix the meat in a vacuum and for this purpose I provide a cover 23 having a depending marginal flange 24 extending about the same, such flange having bars 25 applied to the opposite sides of its lower portion which form a retaining means or clamp for a sealing strip of rubber or like material 26, as shown in Figure 3. If desired, these clamping bars may be recessed as shown to provide a retaining seat for the sealing strip. In the closed position of the cover, this strip bears against a marginal flange 27 projecting from the open end of the tub 11 to thereby seal the tub air-tight for the vacuum treatment of its contents. A source of vacuum may be connected with the interior of the tub through an opening 28 formed in the cover.

By preference, the cover is hinged at 29 to brackets 30 rising from the frame 10, and a counter-weighted suspension cable 31 may be connected to the cover for retaining it in its open position during the tub-charging and dumping operations. For the purpose of holding the cover effectually in sealing engagement with the tub-flange 27, I provide keeper hooks 32 pivoted at 33 to the opposite ends of the tub 11 and engageable with pins 34 borne by the companion end bars 25 of the cover. Two of such keeper hooks are shown at each end of the tub and each pair may be moved into and out of latching engagement with the cover-pins by a hand lever 35 connected to a tie bar 36 joined to the lower ends of the keeper hooks of a pair.

The means for effecting the automatic tilting of the tub 11 to and from its dumping position is preferably constructed as follows:

Pivotally mounted intermediate its ends on the extended end of the right hand trunnion 12 or on the frame 10 axially of said trunnion and disposed for movement in a vertical plane between the corresponding end of the frame and the paddle-shaft gears 21, is a rock arm 37 whose opposite ends are pivotally connected to the paddle shafts 14. This rock arm is adapted to be actuated in one direction or the other to tilt the tub to and from a dumping position through the medium of a fluid-operated piston 38 operating in a cylinder 39 pivoted at 40 to the frame 10, the piston rod 41 being provided at its upper end with a coupling head or bearing 42 swivelled on one of the paddle shafts 41 as shown in Figure 2. The motive fluid, preferably compressed air, is introduced into opposite ends of the cylinder to raise or lower the piston through inlet connections 43 and 44, respectively, a suitable valve 45 having a handle 46 being provided for controlling the admission and exhaust of the air to and from the cyllinder. Connected to the valve is a pipe 47 communicating with a source of compressed air, and the numeral 48 indicates an exhaust pipe connected

with the valve so that when the handle of the valve is set in a position to raise or lower the piston the exhausted air from the cylinder is discharged through one or the other of the connections 43, 44 and thence through the valve ports to the exhaust pipe.

In operation, when it is desired to tilt the tub 11 to its dumping position after the desired treatment of the meat has been completed, the cover 23 is opened by releasing the keepers 32, after which the valve 45 is adjusted through its handle 46 to admit air under pressure through the pipe line 44 in the upper end of the cylinder 39, thereby lowering the piston 38 and actuating the rock arm 37 in the proper direction to tilt the tub about its trunnions 13 to dumping position. When the contents of the tub has been dumped, then the valve is turned to the proper position to admit air through the pipe line 43 at the bottom of the cylinder to raise the piston and restore the tub to its normal position. If desired, the frame 10 may be provided with a suitably shaped abutment 49 against which the paddle shaft 14 or other adjoining part of the rocker assembly is adapted to abut in the dumped position of the tub, while a set screw or like stop 50 may be provided on the frame and against which the companion paddle-shaft or other adjoining part of the rocker assembly is adapted to abut in the upright position of the tub.

I claim as my invention:

In a meat mixer, the combination of a frame, a tiltable tub having trunnions at its ends mounted on said frame, said tub being open at its top for filling and discharge purposes, shafts extending through said tub at opposite sides of its tilting axis and having mixing paddles thereon, a rock arm fulcrumed intermediate its ends axially of said trunnions adjacent one end of the frame and pivotally jointed at its opposite ends to the adjoining extended ends of the paddle-shafts, stop means at one end of said frame disposed substantially radially about the trunnion-axis and facing in different directions and in the respective paths of movement of the opposite ends of said rock arm for limiting the movement of the tub to its filling and discharge positions, respectively, and fluid-operated means for tilting the tub including a cylinder pivotally mounted on said frame, a piston operating therein and pivotally connected at its free end to one end of said rock arm, and valve means for controlling the admission of fluid to opposite ends of said cylinder to govern the tilting movements of the tub.

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