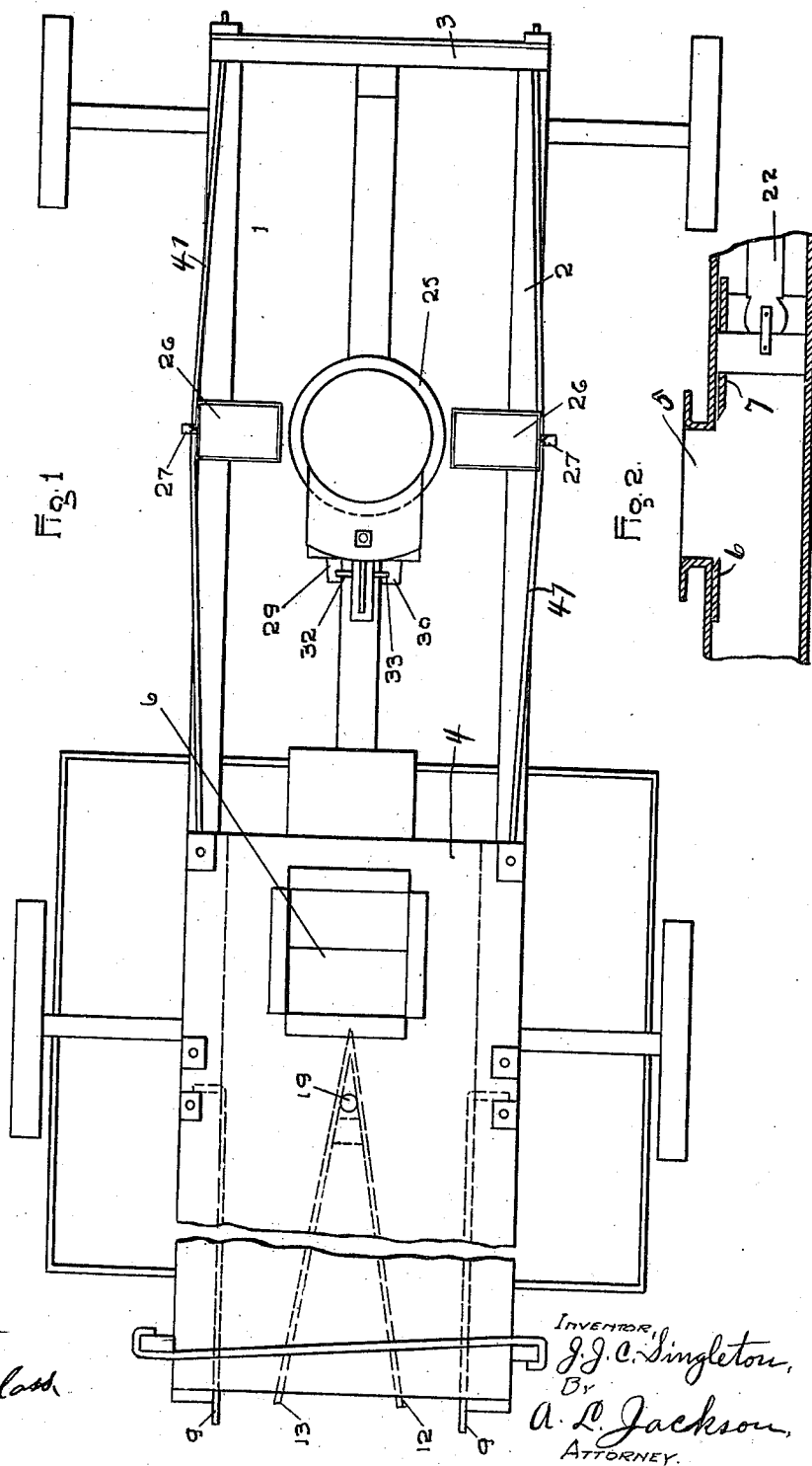


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J. J. C. SINGLETON.
TANKAGE AND MANURE PRESS.
APPLICATION FILED NOV. 5, 1909.

Patented Mar. 21, 1911.
2 SHEETS—SHEET 1.



WITNESSES:
J. W. Smith
W. H. Langlass

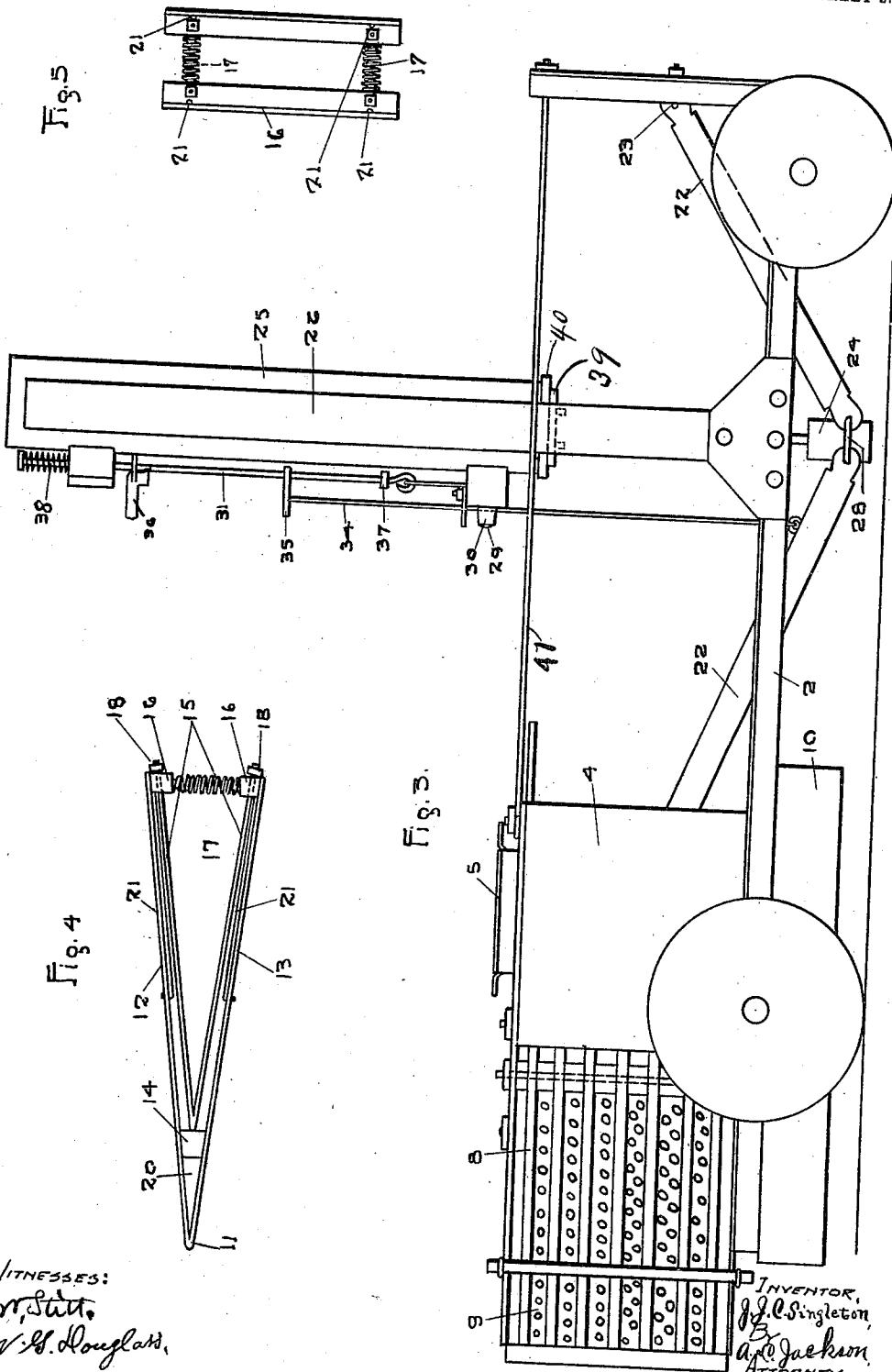
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WITNESSES:
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UNITED STATES PATENT OFFICE.

JOSEPH J. C. SINGLETON, OF FORT WORTH, TEXAS.

TANKAGE AND MANURE PRESS.

987,649.

Specification of Letters Patent. Patented Mar. 21, 1911.

Application filed November 5, 1909. Serial No. 526,459.

To all whom it may concern:

Be it known that I, JOSEPH J. C. SINGLETON, a citizen of the United States, residing at Fort Worth, county of Tarrant, and State of Texas, have invented a new and Improved Tankage and Manure Press, of which the following is a specification.

This invention relates to a press for pressing grease and water out of fragments of meat and other matter, and the object is to provide machines for collecting the grease from the waste material at much less expense than machines now in use.

One of the advantages of this machine is that it is simple and easily operated and may be operated by compressed air or other motive fluid automatically.

Other objects and advantages will be fully explained in the following description, and the invention will be more particularly pointed out in the claims.

Reference is had to the accompanying drawings which form a part of this application.

Figure 1 is a plan view of the complete machine. Fig. 2 is a detail side elevation of the follower and the cutting blade carried thereby. Fig. 3 is a side elevation of the complete machine. Fig. 4 is a plan view of the dividing and cutting blade. Fig. 5 is a front elevation of the same, showing the two wings for spreading material and pressing same against the sides of the plunger box.

Similar characters of reference are used to indicate the same parts throughout the several views.

This machine is provided with a frame, the principal elements of which are angle bars 1 and 2 and cross beam 3. A press box 4 is mounted on the forward ends of the beams 1 and 2. The press box is provided with a receiving hopper 5. A blade 6 is attached to the under side of the cover of the press box at the forward side of the opening which receives material from the hopper 5. The follower is provided with a blade 7 on the upper side, and this blade 7 coöperates with the blade 6 to cut away any hanging fragments of meat, strings, or other matter which may be left hanging through the hopper 5. The forward end of the press box is provided with a series of bars 8. These bars are located on both sides of the machine, and sides 9 of sheet metal are attached to and rest against the bars 8.

The sheet metal sides 9 are perforated for the escape of grease and water, which fall to a receiver 10. The receiver 10 may be suspended on the press box in any suitable manner.

The machine is provided with a dividing blade 11 which is formed at the meeting edges of two wings 12 and 13. As the material is driven forward it strikes the cutting edge 11 and is divided preferably in half. The wings 12 and 13 are attached to a vertical post 14 at the rear end near the cutting edge 11. These wings 12 and 13 are used for contracting the material as it is nearing the forward end of the press box and thus causes the material to be pressed harder as it approaches the forward end of the press box. Means are provided for spreading the wings 12 and 13 more or less. Rods 15 are secured in the posts 14 and extend forward. These rods pass through vertical posts 16. The posts 16 are held apart by spiral springs 17. Nuts 18 are secured on the ends of the rods 15 and by means of the rods 15 and nuts 18 the wings 12 and 13 may be spread more or less at will. If the nuts are screwed farther on the rods 15 the wings will be spread the more. If the nuts 18 are screwed nearer the forward ends of the rods 15 the posts 16 may be drawn forward and thus allow the wings 12 and 13 to be drawn nearer together at their forward ends. The cutting edge 11 may be held in position to divide the material by means of a vertically disposed rod 19, which may be inserted at 20 between the cutting edge and the post 14. The wings 12 and 13 have tracks 21 rigid therewith and the posts 16 have grooves to receive the tracks 21. The object of this is to make the posts 16 move uniformly or in a horizontal direction when forced inwardly by the nuts 18.

The follower is reciprocated in the press box by means of toggle arms 22, one of which is pivotally connected to the follower and the other one of which is pivotally connected to the beam 3 by means of a link 23. The other ends of the toggle arms (which are adjacent to each other) are connected to a plunger 24 by which the toggle arms are alternately raised and lowered, the raising of which drives the follower forward and the lowering of which draws the follower back to starting point. The plunger 24 is operated by compressed air or some suitable motive fluid. The plunger 24 is re-

ciproated in a cylinder 25 which is pivotally mounted in uprights 26 by means of pivot bolts or trunnions 27. The uprights 26 are rigidly attached to the beams 1 and 2.
 5 The object of mounting the cylinder 25 pivotally is that one of the toggle arms which moves with the plunger 24 must have a forward drive and consequently the plunger 24 must move forward with the plunging
 10 rod 22 and move backward also when this plunger rod moves backward. The toggle arms 22 are pivotally connected by means of a link 28 and these toggle arms rest against the vertically reciprocating plunger 24.
 15 Compressed air or steam is admitted to the cylinder 25 through a pipe connection 29. This nipple or connection 29 may be connected with a compressed air tank or with a steam supply source. The toggle
 20 arms are so connected to the plunger 24 that when compressed air is admitted through the nipple 29 the plunger 24 will be raised and the toggle arms 22 will thus drive the follower forward. The compressed air is
 25 allowed to escape from the cylinder 25 through a nipple 30, which should be about 20 times as large as the nipple 29 so that the compressed air will be quickly discharged and the plunger 24 will drop by gravity,
 30 forcing the toggle arms downwardly and thus drawing the follower back to starting position. The nipples 29 and 30 are provided with suitable valves, which are alternately opened and closed. A valve rod 31
 35 operates two valve stems 32 and 33, which move vertically through the nipples 29 and 30 respectively. The valves are simply the rods 32 and 33 and have apertures there-through at different heights. When the
 40 plunger 24 goes down the valve 32 is open to receive compressed air or other motive fluid and the valve 33 is closed. Consequently when air is admitted through the valve 32 the plunger 12 is raised or the plunger goes
 45 up. When the plunger 12 goes up the valve 32 is closed at the end of the up stroke and the valve 33 is opened to let out the motive fluid. The valve rod 31 operates both the valves 32 and 33, the apertures through the
 50 rods 32 and 33 merely being at different heights in those rods. As the plunger 12 goes up it carries the trip rod 34. The valve rod 31 has only sufficient vertical motion to open and close the valves 32 and 33, but the
 55 trip rod 34 has a considerable travel. When the plunger and toggle arms rise the trip rod is forced upward and it carries a trip 35. The rod 34 is loosely connected to the toggle arm 22. The trip 35, as the plunger 24
 60 goes up, strikes a trigger 36 which holds the valve rod 31 (catching in a notch therein) and releases the trigger from the rod 31. The rod 31 is immediately forced upward by the spring 38, closing the intake valve 29
 65 and opening the outlet valve 30. When the

plunger 24 goes down, the trip rod 34 is drawn down by the toggle arm 22, carrying with it the trip 35 which engages a collar 37. This operation closes the outlet valve 30 and opens the inlet valve 29. At the same time
 70 the trigger 36 comes down and engages the notch in the valve rod 31 and thus holds the rod 31 down and so holds the valve 29 open until the plunger and trip rod rise up and release the trigger 36 as before. The cylinder 25 is an open top cylinder but is closed
 75 at the bottom by the head 40 and is provided with a stuffing box 39 through which the plunger rod operates. The plunger can thus be reciprocated in the cylinder 25 by 80 compressed air or other motive fluid and this operation of the plunger serves to drive the follower in the press box by means of the toggle arms. The frame of the press is further braced by the stay rods 41 which are
 85 attached to the frame portion 3 and to the press box 4.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is,— 90

1. A tankage and manure press having a frame, a press box mounted in said frame, a hopper for the press box, perforated sides, laterally expansible wings for concentrating material against said perforated sides
 95 as the material is pressed toward the forward end of the machine, said wings being united to form a cutting edge for dividing the material, an upright post for holding said blade vertically disposed, a follower for driving material through said press box, and means for automatically reciprocating said follower through said press box. 100

2. A tankage and manure press having a frame, a press box mounted in said frame, a
 105 hopper for the press box, perforated sides, laterally expansible wings for concentrating material against said perforated sides as the material is pressed toward the front end of the machine, vertical posts and rods and
 110 nuts for spreading said wings, said wings being united to form a divider blade, means for holding said blade vertically disposed, a follower for driving material through said press box, and means for automatically reciprocating said follower in said press box. 115

3. A tankage and manure press having a frame, a press box mounted in said frame, a hopper for the press box, perforated sides, laterally expansible wings for concentrating material against said perforated sides as the material is approaching the front end of the press box, vertically disposed posts and rods and nuts for spreading said wings, tracks on said wings for guiding said posts, said
 120 wings being united to form a divider blade, a follower for driving material through said press box, and means for automatically reciprocating said follower in said press box. 125

4. A tankage and manure press having a 130

frame, a press-box attached to said frame, a
hopper for said press-box, a cutting blade
attached to the inside of the upperside of
said box, a follower and a blade carried
5 thereby for coöperating with said first men-
tioned blade, said box having perforated
sides, two wings mounted in said box for
concentrating material against said perfo-
rated sides, said wings being united to form
10 a vertical cutting edge, means for laterally

adjusting said wings, and means for recip-
rocating said follower in said press-box.

In testimony whereof, I set my hand in
the presence of two witnesses, this 18th day
of October, 1909.

JOSEPH J. C. SINGLETON.

Witnesses:

A. L. JACKSON,
J. W. STITT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
