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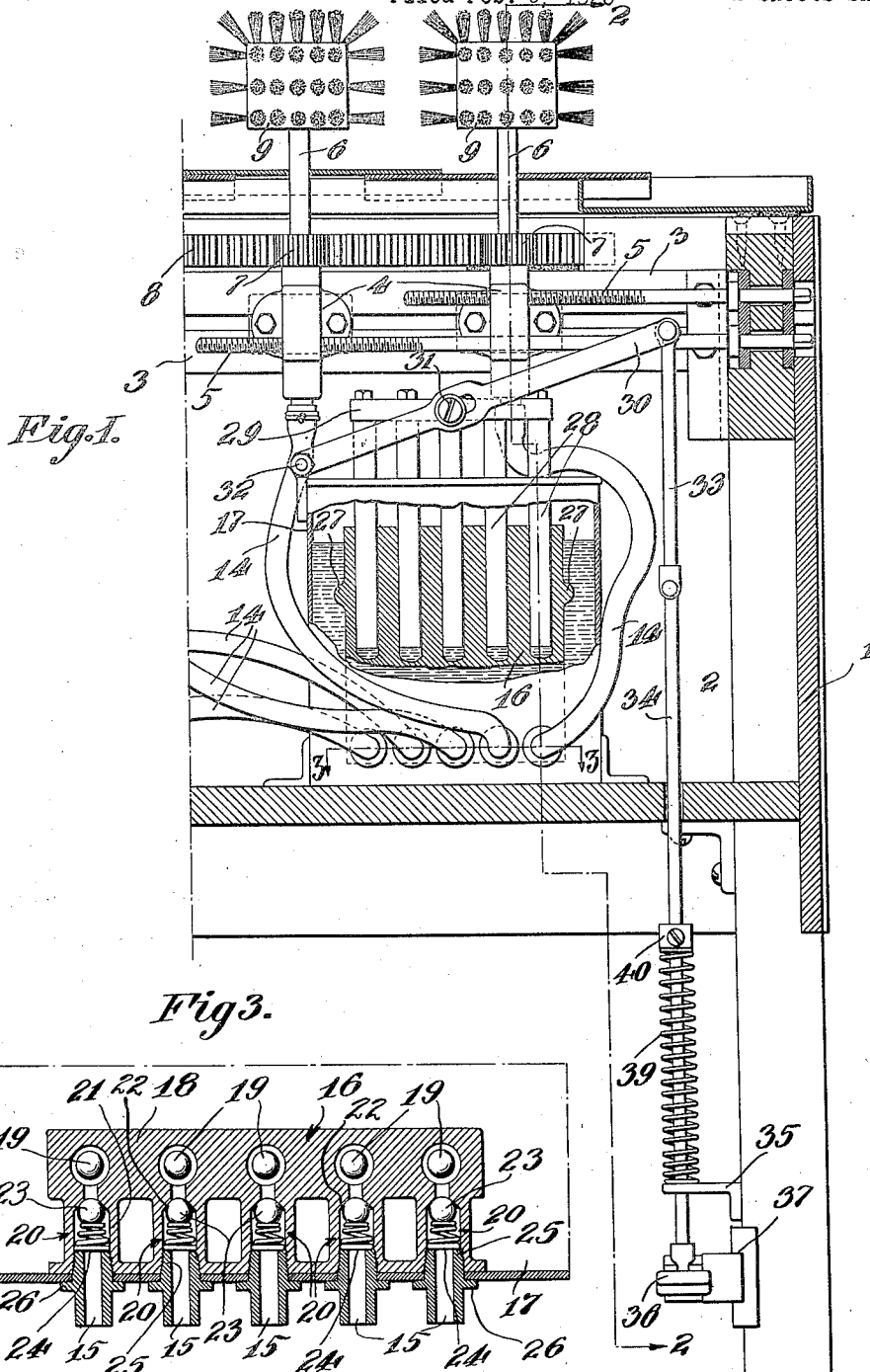
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W. MOLLER

PAN GREASING MACHINE

Filed Feb. 9, 1925

2 Sheets-Sheet 1



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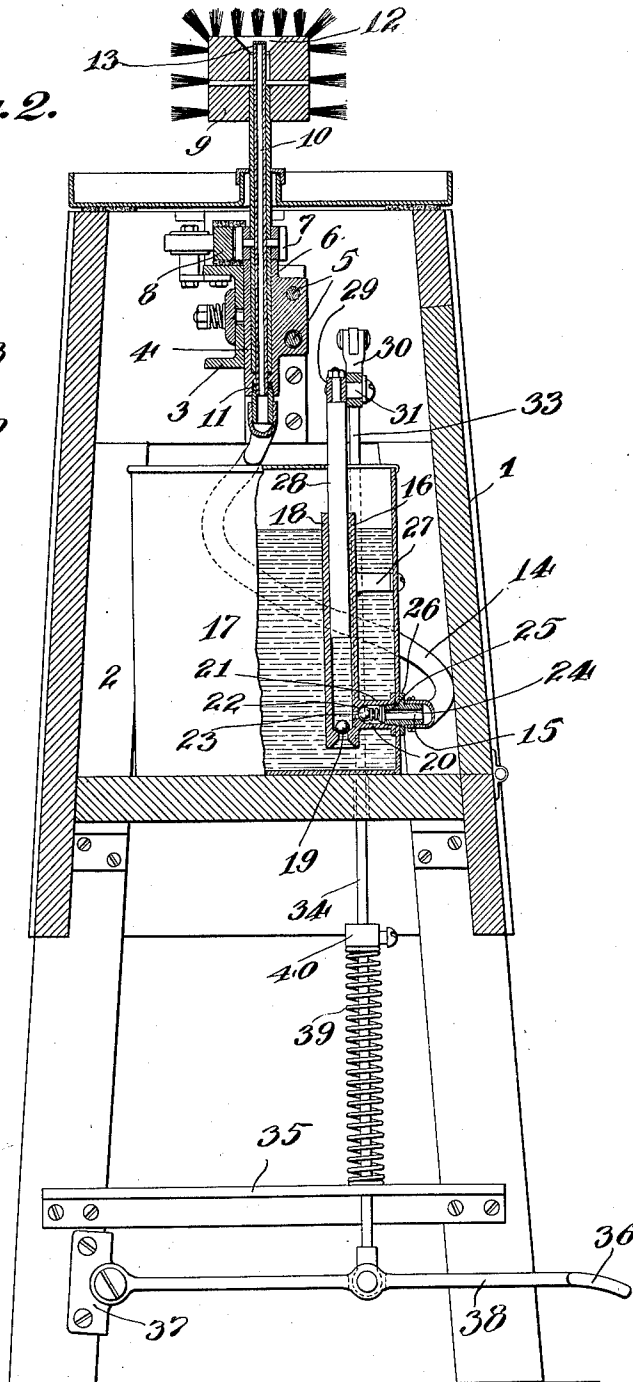
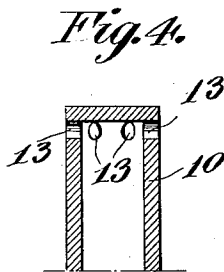
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Fig. 2.



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UNITED STATES PATENT OFFICE.

WILHELM MOLLER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO EASY-PAN GREASING MACHINE CO. INC., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

PAN-GREASING MACHINE.

Application filed February 9, 1925. Serial No. 7,747.

To all whom it may concern:

Be it known that I, WILHELM MOLLER, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Pan-Greasing Machines, of which the following is a specification.

My invention relates to pan greasing machines and more particularly to the mechanism for feeding grease to the brushes.

The objects are to provide mechanism for feeding grease to brushes which may be manipulated to feed any desired quantity of grease evenly to each of a group of brushes; which is capable of feeding semi-fluid as well as liquid grease; which operates only when it is desired to feed the grease, and which is practically leak-proof.

These objects, and other advantageous ends which will be described hereinafter, I attain in the following manner, reference being had to the accompanying drawings in which—

Figure 1 is a fragmentary central vertical section, partly broken away, of a pan greasing machine embodying my grease feeding mechanism,

Figure 2 a section on line 2—2 of Figure 1, Figure 3 an enlarged section on line 3—3 of Figure 1, and

Figure 4 an enlarged fragmentary section of the discharge end of the feed tube.

Referring to the drawings, the pan greasing machine has a frame 1 provided with a compartment 2 in which the actuating mechanism is mounted. A pair of guides 3 are mounted on the sides of the compartment to slidably support step bearings 4 which may be adjusted toward or from each other by screws 5 mounted in the frame. Vertical hollow spindles 6 are rotatably mounted in the step bearings 4 and each spindle has a pinion 7 fixed thereto which meshes with a rack 8 operatively connected with drive mechanism not shown. A brush 9, fixed to each spindle, is rotated alternately in oppo-

site direction by the reciprocating motion of rack 8. The above described mechanism is fully disclosed in my Patent No. 1,532,256, Apr. 7, 1925.

The mechanism for feeding grease to brushes 9 includes a feed tube 10, fixed to step bearing 4 at 11 and extending upward through hollow spindle 6 to within a counter-sunk part 12 at the top of the brush head. The top of tube 10 is closed and its upper end has a series of peripheral discharge openings 13 whereby grease forced through the openings, will strike the face of counter-sunk part 12 and be deflected onto the bristles of the brush. A flexible conduit 14 is suitably connected to the lower end of each tube 10 and to an outlet nipple 15 of a grease pump 16 mounted in a grease tank 17 located in compartment 2.

The grease pump consists of a cylinder head 18, having as many cylinders as there are greasing brushes, inlet check valves 19 at the bottom of each cylinder and outlet check valves 20 adjacent the bottom. Each outlet check valve consists of a flanged nipple 21 integral with each cylinder and having a seat 22 therein against which a ball 23 is held by a spring 24 secured in place by a fitting 25 screwed into nipple 21. This fitting has a flange 26 engaging the outer side of the tank wall to clamp it against nipple 21. This firmly fastens the pump to the tank wall. Flange 26 may be lined with a gasket to form a seal against leakage of grease from the tank. As an additional means for securing the pump to the tank, I provide lugs 27 at opposite ends of the cylinder head and secure them to the tank by screws sealed against leakage.

A plunger 28, slidable in each cylinder, is secured to a bar 29 connected with a lever 30 by a pin and slot connection 31. Lever 30 is pivoted at one end to the tank at 32 and pivotally connected at the other end with a link 33 pivoted on a rod 34 slidable through the bottom of compartment 2 and through a bracket 35 secured to the frame.

The lower end of rod 34 is connected with a pedal 36 pivoted to the frame at 37 and having its free end 38 extending out of the frame to a convenient position for pressing it downward with the foot. A coiled spring 39 between bracket 35 and a collar 40 on rod 34, returns the plungers and their associated parts to normal position.

To feed grease to the brushes, end 38 of the pedal is pressed downward. This movement will be transmitted, against the action of spring 39, through rod 34, link 33 and lever 30, to the plungers 28 and move them downward to force the grease in the cylinders, through outlet check valves 20 and conduits 14, upward through feed tubes 10 and out of opening 13 onto the counter-sunk part 12 of the brush head, which will deflect the grease onto the bristles. The centrifugal force created by the rotating brushes assists the flow of the grease onto the bristles.

Upon releasing pedal 36, springs 39 will return the plungers and their associated parts to normal position. During this movement, grease from the tank will be sucked into the cylinders through the inlet valves 19. Outlet check valves 20 will close immediately after the downward movement of the plungers stops. This keeps the feed tubes 10 and their conduits 14 filled with grease. By having the feed tubes and conduits always filled, any grease forced out of the cylinders by plungers 28, will instantaneously cause an equal amount to discharge through holes 13 in the upper end of the feed tube.

The grease feeding mechanism above described is practically leak-proof, because the pump and its valves are mounted in the grease tank. Discharge of grease onto the brushes may be effected by a slight movement of the pedal because the conduits 14 and feed tubes 10 are always filled. The mechanism is capable of feeding semi-fluid grease with practically the same ease as liquid grease.

While I have described my invention as taking a particular form, it will be understood that the various parts may be changed without departing from the spirit thereof, and hence I do not limit myself to the precise construction set forth, but consider that I am at liberty to make such changes and alterations as fairly come within the scope of the appended claims.

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

1. In a pan greasing machine, a grease tank, a series of hollow spindles, brushes carried by the spindles, means for rotating the spindles, feed tubes extending through the spindles and adapted to discharge grease upon the brushes, a pump having a

cylinder for each feed tube and adapted to pump grease from the grease tank, a flexible conduit connecting each cylinder with a feed tube, and means for actuating the pump.

2. In a pan greasing machine, a grease tank, a series of hollow spindles, brushes carried by the spindles, means for rotating the spindles, feed tubes extending through the spindles and adapted to discharge grease upon the brushes, a pump mounted in the grease tank and having a cylinder for each feed tube, a flexible conduit connecting each cylinder with a feed tube, and means for actuating the pump.

3. In a pan greasing machine, a grease tank, a series of upright hollow spindles, brushes carried by the spindles, means for rotating the spindles, feed tubes extending through the spindles and adapted to discharge grease upon the brushes, a pump having a cylinder for each feed tube and adapted to pump grease from the grease tank, a flexible conduit connecting each cylinder with a feed tube, and means for actuating the pump.

4. In a pan greasing machine, a grease tank, a series of hollow spindles, brushes carried by the spindles, means for rotating the spindles, feed tubes extending through the spindles and adapted to discharge grease upon the brushes, a pump having a cylinder for each feed tube, an inlet check valve in the bottom and an outlet check valve adjacent the bottom of each cylinder, a flexible conduit connecting each cylinder with a feed tube, and means for actuating the pump.

5. In a pan greasing machine, a grease tank, a series of hollow spindles, brushes carried by the spindles, means for rotating the spindles, feed tubes extending through the spindles and adapted to discharge grease upon the brushes, a pump having a cylinder for each feed tube and adapted to pump grease from the grease tank, a flexible conduit connecting each cylinder with a feed tube, a lever operatively connected with the pump, and a pedal operatively connected with the lever.

6. In a pan greasing machine, a grease tank, a series of hollow spindles, brushes carried by the spindles, means for rotating the spindles, feed tubes extending through the spindles and adapted to discharge grease upon the brushes, a pump having a cylinder for each feed tube and adapted to pump grease from the grease tank, a flexible conduit connecting each cylinder with a feed tube, a lever operatively connected with the pump having a cylinder head provided with a cylinder for each feed tube, a flexible conduit connecting each cylinder with a feed tube, a lever connected with the cylinder head, a pedal operatively connected

with the lever, and means for automatically returning the cylinder head and the associated parts to their idle position.

7. In a pan greasing machine having a hollow spindle, and means for rotating the spindle; a brush mounted on one end of the spindle and having a countersunk part; a feed tube extending through the spindle to within the counter-sunk part; means con-

nected with the lower end of the tube for feeding grease to the brush, and means on the upper end of the tube for directing grease against the counter-sunk part whereby the grease will be deflected onto the bristles of the brush.

In testimony whereof I have signed my name to this specification.

WILHELM MOLLER.