Sept. 22, 1931. C. M. OLES 1,824,095

APPARATUS FOR CLEANING LUBRICANT CASES

Filed May 15, 1928

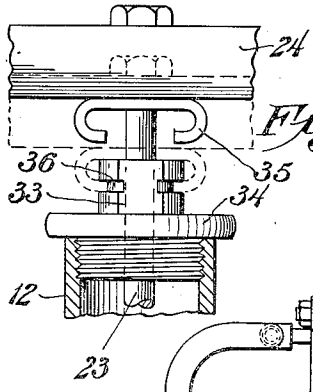


Fig. 4.

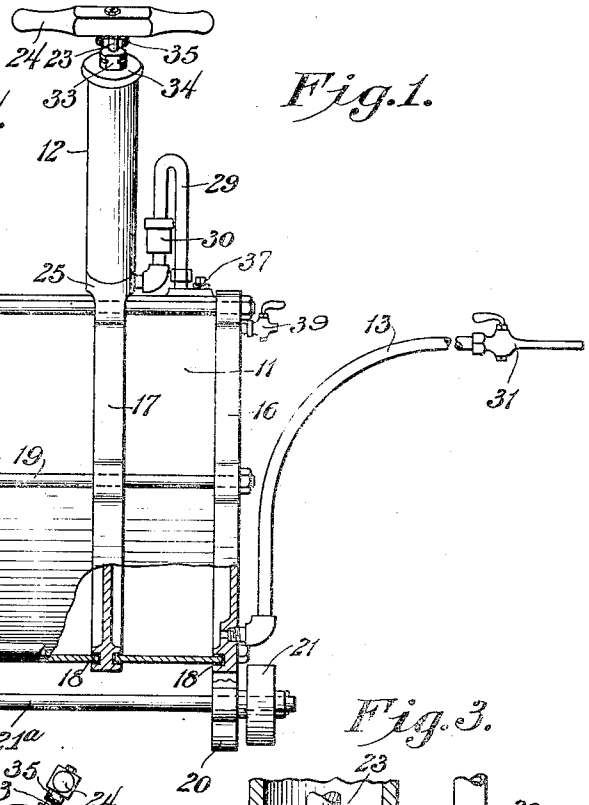


Fig. 1.

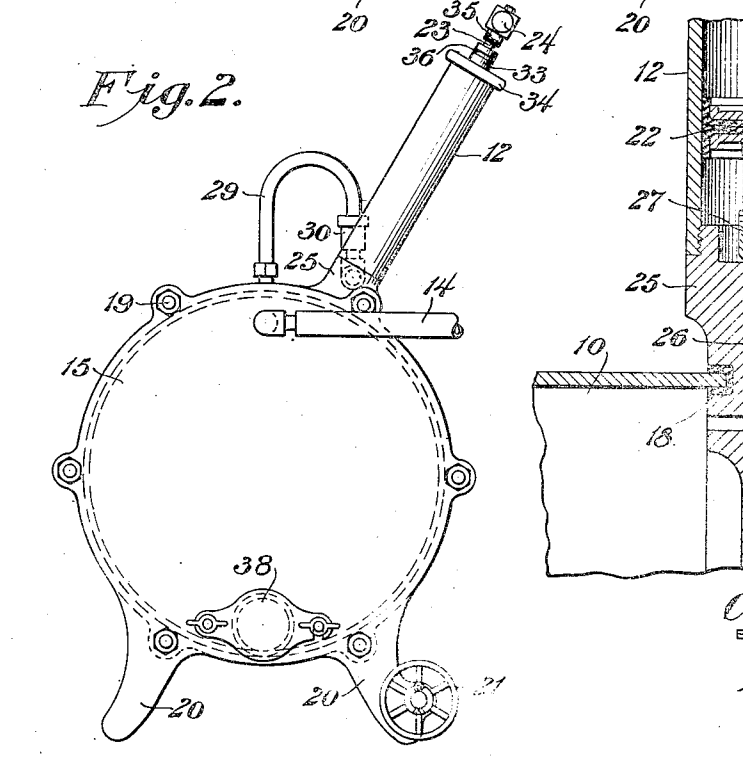


Fig. 2.

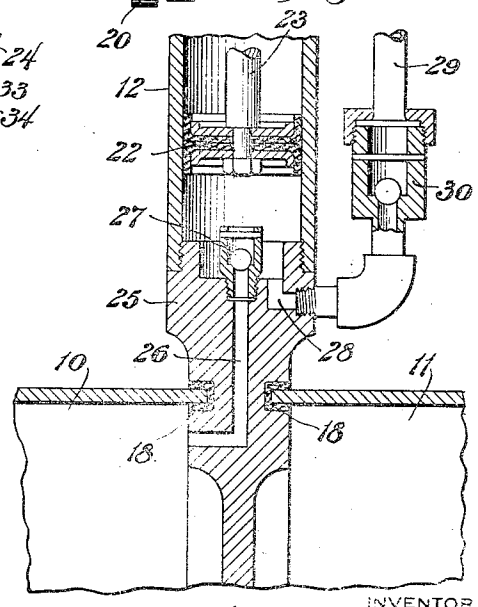


Fig. 3.

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APPARATUS FOR CLEANING LUBRICANT CASES

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This invention relates to apparatus for cleaning lubricant cases, and aims among other objects, to provide an improved device of this character which is portable and compact.

In the drawings,

Fig. 1 is a side elevation, partly in section, of the improved apparatus;

Fig. 2 is an end view of the same;

Fig. 3 is a vertical sectional view taken through the lower end of the pump and the associated parts and shown on an enlarged scale; and

Fig. 4 is a fragmentary elevation, partly in section, of the upper end of the pump shown in Fig. 1.

Referring particularly to the drawings, there is shown a grease receiving container or tank 10 and a cleaning fluid container or tank 11, which are connected to a pump 12 adapted to create a vacuum in the grease tank 10 and pressure in the other tank 11, whereby the cleaning fluid may be forced under pressure into the case through a flexible conduit 13 to loosen the grease which is then drawn from the case through a flexible conduit 14 into the tank 10.

The tanks and the pump are herein shown as being combined into a single unit, which includes end walls 15 and 16 and an intermediate wall 17 constituting heads for the tanks. The tanks are preferably formed of sheet metal cylinders having their ends seated in suitable packing rings in annular grooves 18 in the walls, and tie rods 19 or the like passing through perforated ears in the heads, hold the parts rigidly in place.

To support the apparatus, a pair of legs 20 are rigidly secured to or formed integral with the end walls 15 and 16, and in order that it may be moved about, ground wheels 21 are provided which, in the present instance, are journaled on a shaft 21^a mounted in ears formed on one of the legs of each end wall. The wheels are so mounted as to be spaced from the ground when the apparatus is in operative position and when it is tilted, the wheels engage the ground and the legs are raised, thereby permitting it to be wheeled to any desired place.

The pump 12 is shown as comprising a tubular casing in which is mounted a piston 22 suitably packed so that suction and pressure may be created beneath the same on its up and down strokes respectively. The piston is mounted on a suitable piston rod 23 which extends through the top of the pump and is connected to an operating handle 24.

The pump casing is rigidly secured to an upstanding extension 25 on the intermediate wall 17, as by screw-threads or any other suitable fastening means, and is inclined so it may be easily operated. The device may be tilted and wheeled about by using the pump as a handle and, as shown in Fig. 2, the pump is inclined toward the wheeled side, so that after the device has been wheeled into position and set up for use, the operator is in proper position to use the pump.

An opening 26 is provided in the extension 25 and intermediate wall 17 to provide a suction passageway between the grease receptacle 10 and the pump, which passageway is controlled by a suitable check valve 27. A second opening 28 is also provided in the extension, through which air pressure from the pump may pass to the receptacle 11, by means of a conduit 29 having a suitable check valve 30 therein.

The conduit 13 which is connected at one end to the lower end of the tank 11, is provided at its other end with a valve controlled nozzle 31. The other conduit 14 is connected at one end to the upper end of the tank 10 and is provided at its other end with a flexible metallic tube 32.

In order that the pump handle 24 may be held in its lowermost position at the bottom of its stroke while the apparatus is being wheeled about, there is shown a bayonet slot connection between the upper end of the pump cylinder and the handle (see Fig. 4). Herein, the connection comprises a grooved extension 33 on the pump cylinder head 34 and the opposite sides of this member are cut away so that a substantially C-shaped bayonet member 35 may be slipped over the cut-away portions and turned a quarter round to engage in the annular grooves 36, the arrangement being such that the handle will

be locked with its axis parallel with the axis of the wheels 21.

In the operation of the apparatus, the tank 11 is filled with a suitable fluid, such as kerosene, by removing a plug 37 in the upper end thereof. The plug is replaced and the nozzle 31 is placed in the case to be cleaned and the nozzle valve opened. When the pump is operated, air is drawn into the pump through the conduit 14, tank 10, passageway 26 and check valve 27, and is forced out through the passageway 28, check valve 30 and conduit 29 into the tank 11, thereby placing the kerosene under pressure to be forced into the case to thin the grease therein, so that it may be easily withdrawn. After the grease has been thinned sufficiently, the nozzle valve is closed and the nozzle 31 removed from the case. The tube 32 is then inserted, and when the pump is operated, the vacuum created in the tank 10 will draw the grease through the conduit 14 into the tank 10, where it drops to the bottom and is removed through an opening at the lower end of the end wall 15 normally closed by a plate 38. When the pump is in operation to draw the grease from the case, the operator may open a pet cock 39 in the upper end of the tank 11, so that the air pressure created may exhaust to the atmosphere and allow the pump to work easily.

After the grease has been drawn from the case, the case may be thoroughly cleaned by repeating the introduction of kerosene under pressure.

From the foregoing description and a study of the drawing, it will be seen that an improved apparatus has been provided which is portable and compact and which will effectively remove grease from and clean lubricating cases.

Obviously, the present invention is not restricted to the particular embodiment thereof herein shown and described.

What is claimed is:—

1. An apparatus for cleaning lubricant cases comprising, in combination, a pair of end walls; an intermediate wall; a grease tank between one end wall and the intermediate wall; a cleaning fluid tank between the other end wall and the intermediate wall; the walls forming heads for the tanks; supporting legs on the end walls; ground wheels carried by one leg of each end wall and adapted to engage the ground when the apparatus is tilted; a pump rigidly secured to the intermediate wall and connected to create suction in the grease tank and pressure in the other tank, said pump forming a handle for moving the apparatus on the wheels when tilted; and a flexible conduit connected to each tank.

2. An apparatus for cleaning lubricant cases comprising, in combination, a pair of end walls; an intermediate wall; a grease tank between one end wall and the intermediate wall; a cleaning fluid tank between the other end wall and the intermediate wall; the walls forming heads for the tanks; a pump casing rigidly secured to the intermediate wall; a piston in said casing; a passageway in the intermediate wall in communication with the grease tank and the suction side of the pump; a check valve in said passageway; a conduit connected to the cleaning fluid tank and to the pressure side of the pump; a check valve in said conduit; a flexible inlet conduit connected to the grease tank; a flexible outlet conduit connected to the other tank; and a valve in said outlet conduit.

3. In an apparatus of the class described the combination of a pair of tanks; a pair of end walls, each forming a head for one of the tanks; an intermediate wall between the tanks to form a head for both tanks; a pump secured to the intermediate wall and having a suction connection with one tank and a pressure connection with the other tank; and flexible conduits leading from the tanks.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature.

CHARLES M. OLES.