Search Room

Dec. 29, 1931. E. F. BERG 1,838,735

HAND OILER

Filed April 14, 1930

Fig. 1

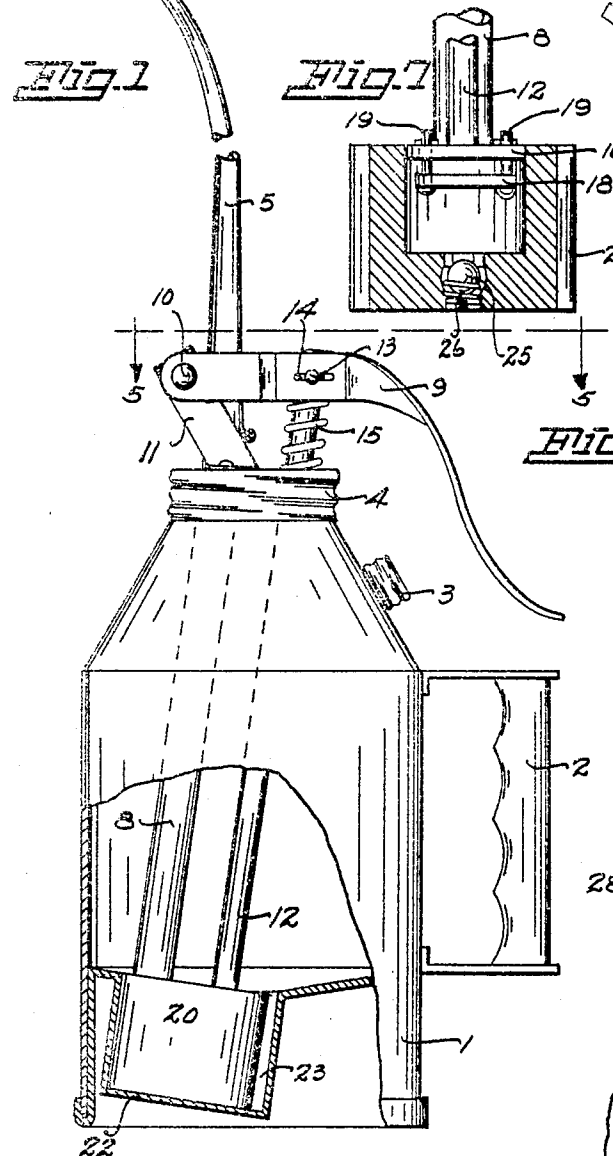


Fig. 7

Fig. 3

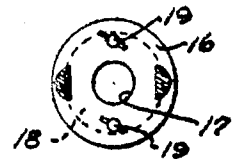


Fig. 2

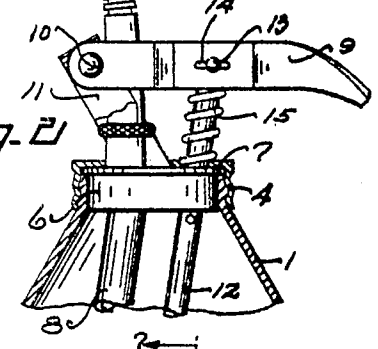


Fig. 4

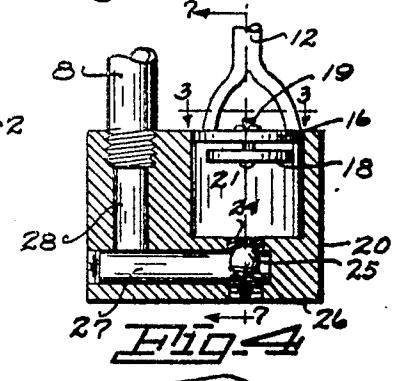


Fig. 6

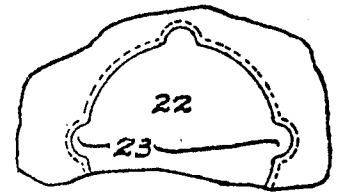
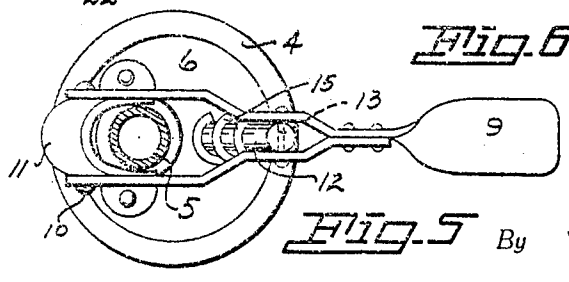


Fig. 5



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Patented Dec. 29, 1931 1,838,735

UNITED STATES PATENT OFFICE

EDMUND F. BERG, OF LATAH, WASHINGTON

HAND OILER

Application filed April 14, 1930. Serial No. 444,130.

My present invention relates to an improved hand oiler of the force feed pump type, using a lever actuated means for operating the pump to dispense oil in a steady and uniform stream through the spout of the can, with each working stroke of the pump. The pump is of the reciprocating type, and the working or operating parts of the oiler are removable as a unit from the can for the purposes of cleaning, adjusting or repairing or replacement.

In carrying out my invention I employ a well in the bottom of the can in which is located the pump head, and the pump is operated by means of an exterior hand lever to lift a column of oil, and force the oil in a strong stream through the discharge spout, for lubricating purposes.

The invention consists in certain novel combinations and arrangements of parts as will hereinafter be more fully set forth and claimed. In the accompanying drawings I have illustrated one complete example of the physical embodiment of my invention wherein the parts are combined and arranged according to the best mode I have thus far devised for the practical application of the principles of my invention.

Figure 1 is a view of the hand oiler of my invention, the can being partly broken away for convenience of illustration. Figure 2 is a detail sectional view at the top of the can, showing the pump cap and screw top for the can, and connections. Figure 3 is a sectional detail view at line 3—3 of Figure 4. Figure 4 is a sectional detail view of the pump-head and pump at the bottom of the oil can. Figure 5 is a sectional detail view at line 5—5 of Figure 1. Figure 6 is a detail plan view showing a portion of the pump well at the bottom of the oilcan. Figure 7 is a sectional detail view at line 7—7 of Figure 4.

The oil can 1 is of acceptable size and shape and provided with a handle 2, and a filling inlet that is closed by the usual screw cap 3.

The open top of the can is provided with a screw top 4 that is threaded on the can and fashioned with an open center to accommodate parts of the operating device. In Figure 1 the oiler is provided with a discharge spout or nozzle 5 and in Figure 2 a modified form of the spout is indicated at 5′, the latter spout or nozzle being flexible. These spouts are interchangeable, and the selected one is threaded into a complementary opening in the circular cap-block 6 that is retained in the open top of the can. The cap-block is supported in the neck of the can at its mouth by means of an annular exterior flange 7 which rests on the top edge of the mouth of the can and this flange is clamped on the edge by means of the screw top or screw ring 4. The open center of the screw top or ring is closed by the cap block, and the flange of the cap block is clamped down to form a seal to prevent leakage of oil from the oil can.

The screw top is removed to permit withdrawal of the operating parts of the device, and is replaced after the parts have been returned to their usual positions.

At the underside of the cap block 6 is connected a discharge pipe 8 for the pump, the latter pipe being in communication with the spout or nozzle of the oil can, and this pipe extends downwardly, preferably on an oblique line, in the oil can.

A lever 9 for operating the pump is located exterior of the can and adjacent to the handle 2, so that the thumb may be used to operate the lever, and the latter is pivoted at 10 on the bracket 11 which is supported rigidly on the cap block 6.

A pump rod 12 is passed through an opening in the cap block and by means of pin 13 and slot 14 the lever and pump rod are pivoted so that a downward swing of the lever on its pivot 10 causes a working stroke of the rod and the pump, a spring 15 being located between the lever and the cap-block to return or lift the lever to its normal position.

At the lower end of the pump rod 12 is fixed a piston or circular disk 16 which is fashioned with an intake port 17, and below the piston is carried a relatively movable disk or valve 18 which is supported from the piston by means of a pair of diametrically arranged pins 19 rigid with the piston and

upon which pins the valve is adapted to slide for opening and closing the oil intake port of the pump.

A round or circular pump head 20 is fashioned with a cylinder or pressure chamber 21 in which the piston and its valve reciprocate, and in Figure 4 it will be apparent that as the piston moves down on its working stroke, the fluid pressure beneath the valve holds the latter closed against the intake port, while on the upstroke of the piston, oil enters through the port and by its pressure holds the valve in open position until the cylinder is re-filled with oil.

The pump head 20 is rigid with the discharge pipe 8, and when the working parts of the oiler are inserted in the can, the head is depressed into a well 22 countersunk below the bottom of the oil can in order that the fluid may readily flow into the intake port of the pump.

As seen in Figure 6, the side walls of the well are fashioned with a number of grooves exterior of the well, as indicated at 23, to permit flow of oil from the well when the pump head is being shoved into the well, it being of course necessary to displace the oil from the well to permit entrance and proper location of the pump in its well.

At the lower end of the pump cylinder is provided an outlet port 24, which is closed by a ball valve 25 under influence of the spring 26, and of course the ball valve is opened on the down or working stroke of the pump to permit flow of oil from the cylinder.

The ball valve is located near the end of a discharge passage 27, which communicates with another discharge passage 28, both passages being drilled in the pump head, and the passage 28 communicates with the discharge pipe 8.

From this description it will be apparent that I have provided a device that is simple in construction and operation for the performance of the required functions. By means of the screw ring 4 the whole operating unit including the spout, lever and its bracket, cap block, pump head, discharge pipe and pump rod, is rigidly fastened in place, and the operating unit is supported by the cap block and the pump head in connection with the screw ring and the pump well. Excessive upward movement of the pump rod is prevented by a cotter pin 12′ passed transversely through the pump rod below the cap block after the parts have been adjusted, and it will be apparent that, with the screw ring displaced, the operating unit may be lifted by grasping the handle or lever 9 for that purpose.

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

A hand oiler comprising a can having a restricted top opening bounded by an upstanding annular flange, a block fitting in said opening and having at its top a peripheral flange resting on the top of said upstanding annular flange, a cap member having a depending flange secured to said upstanding flange and having the center of the top portion open so as to leave an annular inturned flange resting on the top of said block, a well in the bottom of the can, a pump cylinder removably housed in said well, a discharge pipe and piston rod carried in said well and connected with the cylinder, and operating means for said piston rod mounted on said block.

In testimony whereof I affix my signature.

EDMUND F. BERG.