Dec. 29, 1925. 1,567,142

C. G. HAWORTH

POWER OIL CAN

Filed April 28, 1924

Fig. 4.

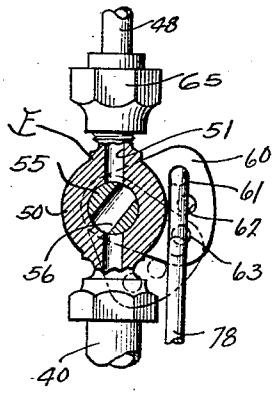


Fig. 2.

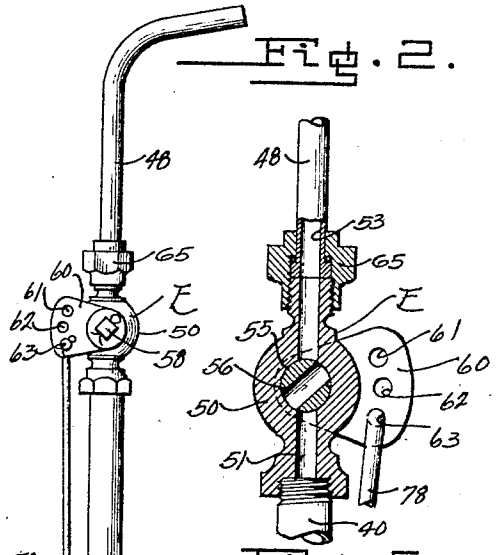


Fig. 5.

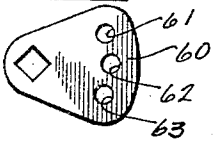


Fig. 1.

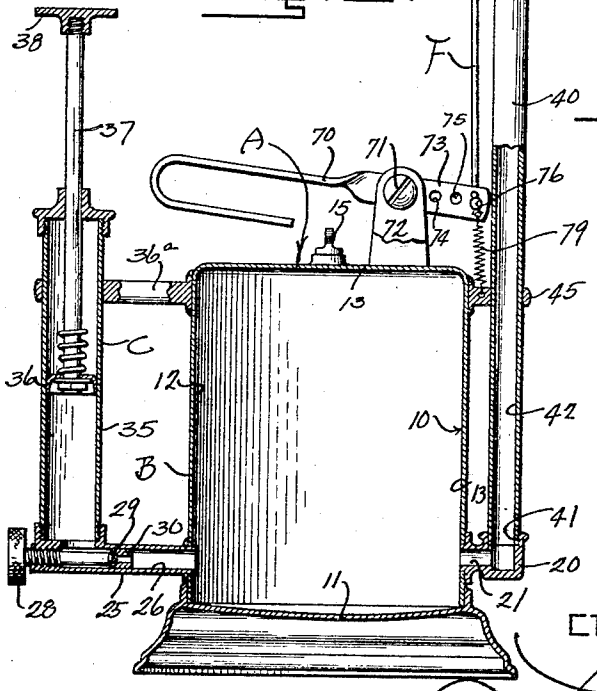
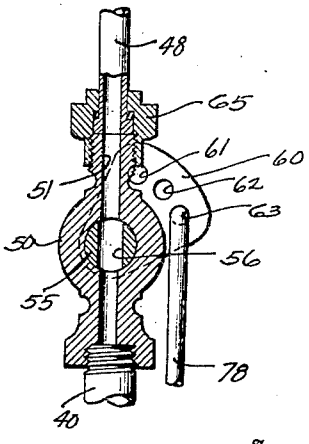


Fig. 3.



Inventor
Clarkson G. Haworth

By Lancaster and Allwine

Attorneys

Patented Dec. 29, 1925. 1,567,142

UNITED STATES PATENT OFFICE.

CLARKSON GLEN HAWORTH, OF RUSSIAVILLE, INDIANA.

POWER OIL CAN.

Application filed April 28, 1924. Serial No. 709,648.

To all whom it may concern:

Be it known that I, CLARKSON G. HAWORTH, a citizen of the United States, residing at Russiaville, in the county of Howard and State of Indiana, have invented certain new and useful Improvements in a Power Oil Can, of which the following is a specification.

This invention relates to improvements in oil cans.

The primary object of this invention is the provision of a power oil can having air pressure feed for the lubricant thereof and improved valve means for regulating the feed of lubricant from the can according to the grade of lubricant used.

A further object of this invention is the provision of an improvement in valve regulating means for the control of lubricant flow from oil cans and the like.

Other objects and advantages of this invention will be apparent during the course of the following detailed description.

In the accompanying drawing, forming a part of this specification, and wherein similar reference characters designate corresponding parts throughout the several views,

Figure 1 is a cross sectional view taken through the improved oil can, showing operating details thereof.

Figures 2, 3 and 4 are cross sectional views showing different operating positions of the valve means embodied as a novel feature of this invention for the control of lubricant flow from the oil can.

Figure 5 is a view showing an improved detail of the valve regulating means.

In the drawing, wherein for the purpose of illustration is shown only a preferred embodiment of the invention, the letter A may generally designate an oil can which may consist of a container B; means C for building up a pressure within the container B; a novel spout structure D; control valve means E in the spout D; and operating means F for the valve E.

The container B may be of any approved construction, and in the preferred instance includes a cylindrical shaped body portion 10 having a bottom wall 11; a top wall 13, and providing a compartment 12 for receiving a lubricant under pressure. In the top wall 13 a filler plug 15 may be provided whereby to permit the filling of the container B. Adjacent the bottom of the container B, and preferably in the cylindrical body portion 10, a lateral extension 20 is provided, in which an outlet opening 21 is formed and through which the oil or lubricant may flow from the container compartment 13 into the spout D, as will be subsequently described.

Referring to the means C for building up pressure within the container B, the same includes a lateral tubular extension 25 supported by the container body 10 adjacent the bottom 11, and in a horizontal relation, which provides a passageway 26 communicating with the compartment 12. In this tubular portion 25 a needle valve 28 is provided, which has a tapered end 29 operating against a seat 30. A vertical pump cylinder 35 is supported by the tubular extension 25, and at its upper end is braced by means of a horizontal arm 36^a formed rigid with the container B at the upper end thereof, and so that the axes of the container B and the pump cylinder 35 are parallel. The pump cylinder 35, in effect, provides a handle by which the operator may grasp the oil can for the purpose of handling the same. In the pump cylinder 35 a plunger 36 and reciprocating rod 37 are provided, and the rod 37 at its outer end has a thumb or hand engaging head 38 thereon which the operator may force downwardly or upwardly for the purpose of reciprocating the plunger 36 in the cylinder 35, to build up air pressure within the container B when the needle valve 28 is open.

Referring to the spout structure D, the same is novel, and is exteriorly supported upon the container B. It includes the main tubular portion 40, which at the lower end thereof rests within a suitable socket opening 41 provided by the lateral extension 20, so that the outlet opening 21 at the lower end of the container B is in communication with the vertical passageway 42 extending through the spout portion 40. The upper end of the container B may be provided with a lateral extension 45 engaged about the spout portion 40 for the purpose of supporting the spout portion 40 in exterior parallel relation with the container B. The spout portion 40 extends upwardly above the container B for any desired height, and preferably at its upper end supports the novel valve structure E. A swivelly mounted J-shaped nozzle portion 48 may be considered a part of the spout D, the same being swivel-

ly supported by the valve structure E, as will be subsequently mentioned.

Referring to the novel valve structure E, the same includes a housing portion 50, providing a passageway 51 therethrough which aligns with the passageway 42 of the spout portion 40 and also with the passageway 53 provided through the swivel nozzle 48. A valve member 55 is supported in the housing or casing 50, transversely of the passageway 51, and providing a transverse port 56 therethrough which may be aligned to any desired degree with the passageway 51 to selectively control the flow of lubricant of any desired grade or quantity. The valve member 55 at one outer end thereof is preferably squared, as at 58, and on this squared portion a lever plate or arm 60 is fixed; said arm or plate 60 being provided at its outer end with a series of openings 61, 62, and 63 arranged in concentric alignment with the valve axis, and with which openings the operating mechanism F may be selectively connected, as will be subsequently described.

At its upper end the valve casing 50 may detachably support a coupling 65 which is used for the purpose of swivelly connecting the nozzle piece 48 in the relation illustrated and described with respect to other details of the spout D, and so that the end of the nozzle 48 may be turned in any desired direction for the purpose of accessibly reaching any desired machinery or part of machinery to be lubricated.

Referring to the means F for operating the valve structure E, the same preferably includes an operating lever 70 pivotally connected intermediate its ends upon a pin or screw 71, the latter being supported upon an extension 72 formed rigid upon the top 12 of the container B. One end of the handle 70 extends toward the means C for engagement by the thumb of the operator, and the opposite end portion 73 extends toward the spout D and is provided with a series of openings 74, 75 and 76 therein. A connecting rod 78 is provided as part of the means F, the lower end of which may be selectively connected in any of the openings 74, 75 or 76, and the upper end of which may be selectively connected in any of the openings 61, 62 or 63. A spiral spring 79 normally connects the end 73 of the lever 70 with the lateral extension 45 of the container B for the purpose of pulling downwardly upon the connecting rod 78 to normally close the valve E to prevent accidental flow of lubricant from the oil can.

In operation, pressure is built up within the container B by reciprocation of the pump within the cylinder handle 35, and the needle valve 28 is closed to retain the pressure in the compartment 13. If a relatively heavy grade of lubricant is to be used, it can readily be understood that it will be advisable to permit opening of the valve E to a relatively full extent to permit flow of heavy or viscid lubricant from the oil can. In this event the connecting rod 78 at its upper end may be connected in the lowermost opening 63 of the valve arm 60, and the lower end of the connecting rod 78 may be connected in the outermost opening 76 of the operating lever 70. The spring 79 upon the occasion of such connection of the parts normally tends to draw the valve into the closed position illustrated in Figure 2 of the drawing. However, upon full depression of the lever 70 until the free end engages top 12, the operator will force the arm 60 upwardly as is illustrated in Figure 3 to fully align the valve port 56 with the passageway 51 through the valve, to permit maximum flow of lubricant under pressure from the oil can. When it is desired to feed a relatively light grade of lubricant through the oil can, the upper end of the rod 78 may be connected in the opening 61 of the valve arm 60, and if desired the lower end of the connecting rod 78 may be connected in the opening 74 of the operating lever 70, and when in its fullest open position the valve E will then assume somewhat the relation illustrated in Figure 4, so that a relatively small passageway of the lubricant through the port 56 of the valve member 55 is permitted. Intermediate regulation of the valve structure for maximum feed of lubricant according to the quality of lubricant may be provided, merely by adjusting the position which the connecting rod 78 may have with respect to the arm 60 and to the outer end 73 of the lever 70.

From the foregoing description of this invention it is apparent that an oil can has been provided which includes a pressure feed of the lubricant therefrom and novel features of lubricant control.

Various changes in the shape, size, and arrangement of parts may be made to the form of invention herein shown and described, without departing from the spirit of this invention or the scope of the claims.

I claim:

1. In an oil can of the class described a container, a spout for the container, a valve for the spout, and means for varying the maximum open position to which the valve may be moved.

2. In an oil can of the class described a container, a spout for the container, a valve for the spout, means for varying the maximum open position to which the valve can be moved, and means for building up pressure within the can for the full speed of lubricant through said spout.

3. In an oil can of the class described the combination of a container, spout means for the container for flow of lubricant from the

container thereinto, valve means in the spout including a movable portion provided with a series of openings therein, and operating means having a limited movement and adapted for selective connection in any of said openings whereby to regulate the maximum open position of the valve to suit the feed of oil of a particular grade from said spout.

4. In an oil can of the class described the combination of a container, means for building up pressure within the container, spout means for the container, a valve in the spout means for regulating flow of lubricant therethrough, an operating lever on the container, and means for adjustably connecting the operating lever with said valve whereby to permit various maximum open positions of the valve.

5. In an oil can a container, spout means for the container, a valve for the spout, a lever pivoted on the container, an arm for said valve, and a connecting rod which may be selectively adjusted along said operating lever and the arm of said valve to permit various open relations of the valve in said spout upon operation of the same by said lever.

6. In an oil can of the class described the combination of a container, means for building up pressure within the container, a spout for the container, a valve in the spout including a port which may be aligned with the passageway of the spout, operating means adjustably connected with the valve in such a relation as to positively permit various maximum open relations of the port with respect to the passageway of the spout, and spring means normally acting to maintain the port closed with respect to said spout.

7. In an oil can structure the combination of a container, a spout having a passageway therethrough, a valve having a port which may be aligned with the passageway of said spout, an arm laterally carried by the valve having a series of openings therein, an operating lever pivoted upon the container having at one end thereof a series of openings, and a connecting rod which may be selectively connected at its ends with any of the openings in said arm of the valve and the end of said lever whereby upon operation of said lever the valve may be opened to various maximum relations in the spout.

8. In an oil can structure the combination of a container, a spout having a passageway therethrough, a valve having a port which may be aligned with the passageway of said spout, an arm laterally carried by the valve having a series of openings therein, an operating lever pivoted upon the container having at one end thereof a series of openings, a connecting rod which may be selectively connected at its ends with any of the openings in said arm of the valve and the end of said lever whereby upon operation of said lever the valve may be opened to various maximum relations in the spout, and spring means acting upon said connecting rod to normally pull the valve into a closed relation in said spout.

9. In an oil can the combination of a container, a spout for the container, a valve in the spout, and means for adjustably limiting the maximum open position of the valve to different degrees whereby oils in different viscid states may be dispensed in regulated quantity.

10. In an oil can the combination of a container, a spout connected with the container, a valve for the spout, a lever pivoted intermediate its ends upon said container and to one side of its pivot axis providing a handle portion and to the other side of its pivot axis providing a portion having a series of openings spaced at various distances from the pivot axis of said lever, an arm radially extending from said valve provided with a series of openings therein concentrically arranged with respect to the pivot axis of said valve, and a rigid rod extending between the lever and arm of the valve adapted for selective connection at its ends in any of the openings of said lever and arm whereby to regulate the degree of opening of the valve in said spout so that the can may be used for dispensing oils of different viscosities.

CLARKSON GLEN HAWORTH.