Aug. 30, 1938. E. W. DAVIS 2,128,637

LUBRICATING APPARATUS

Filed Aug. 21, 1936

Fig. 1

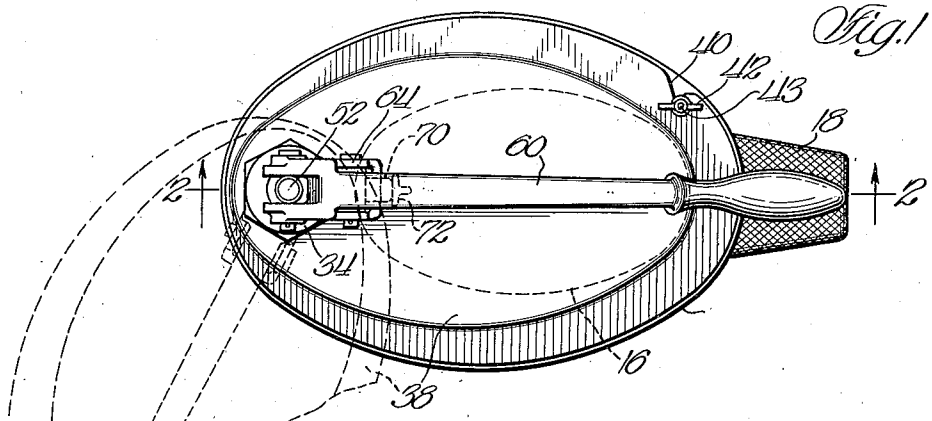
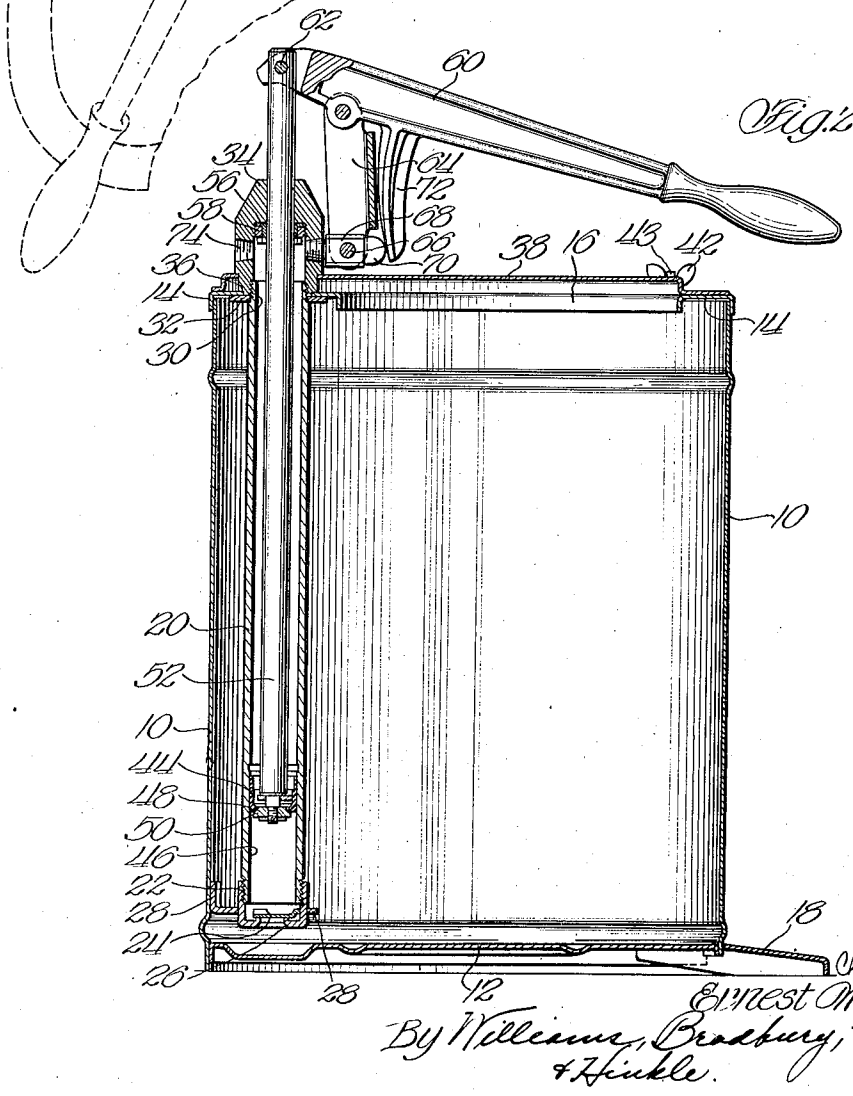


Fig. 2



Inventor:
Ernest W. Davis
By Williams, Bradbury, McCabe & Hinkle.
Attys.

Patented Aug. 30, 1938 2,128,637

UNITED STATES PATENT OFFICE

2,128,637

LUBRICATING APPARATUS

Ernest W. Davis, Oak Park, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Application August 21, 1936, Serial No. 97,117

6 Claims. (Cl. 221—80)

My invention relates generally to lubricating apparatus, and more particularly to improvements in hand operated lubricant compressors.

It is an object of my invention to provide an improved lubricant compressor in which the operating mechanism for the pump is pivotally mounted in the reservoir of the compressor and has the cover for the reservoir rigidly secured to the operating mechanism so that by rotating the cover, the operating mechanism of the pump may be swung from above the filling opening of the reservoir.

A further object is to provide an improved lubricant compressor which may be easily operated and refilled, and which may be economically manufactured.

Other objects will appear from the following description, reference being had to the accompanying drawing, in which:

Fig. 1 is a plan view of the improved compressor; and

Fig. 2 is a central vertical cross-sectional view thereof taken on the line 2—2 of Fig. 1.

The compressor of my invention comprises a lubricant reservoir having a wall 10 which is elliptical in cross-section, a bottom wall 12, and a top wall 14 having an enlarged elliptical filling opening 16 formed therein. The walls of the reservoir are preferably of sheet metal and welded or otherwise suitably secured to each other. A sheet metal foot plate is welded or otherwise suitably secured to the lower edge of the wall 10 and to the bottom 12 of the reservoir.

The pumping mechanism comprises a pipe-like cylinder 20, the lower end of which has a foot valve cap 22 threaded thereon within which a foot valve 24 is retained for engagement with a seat 26. The foot valve cap 22 is guided for rotational movement in the aperture of a bracket 28 which may be welded or otherwise secured to the inside of the reservoir wall 10. The upper end of the pump cylinder 20 has a shoulder 30 against which a washer 32 is clamped by the pump head 34 which is screwed to the upper end of the pump cylinder. The lower end of the head 34 is provided with an annular groove 36 and loosely engages the edge of the top 14 surrounding the aperture therein through which the pump cylinder projects. The pump cylinder 20 and head 34 are thus freely rotatable with respect to the reservoir. A cover 38 is welded or otherwise rigidly secured to the head 34 and is adapted to cover the filling opening 16 formed in the top 14 of the reservoir. This cover is provided with a notch 40 engageable with the shank of a wing nut 42 threaded on a stud 43 secured to the top 14, by which the cover may be clamped in closed position, as shown in full lines in Fig. 1.

A piston 44 is reciprocable in a cylindrical bore 46 formed at the lower end of the pump cylinder 20 and has a valve seat 48 formed about the opening in the bottom of the piston. A valve 50 carried by a piston rod 52 is adapted to engage the seat 48 upon the upstroke of the piston rod and to move away from said seat upon the downward stroke of the piston rod in a manner well known in pump construction. The upper end of the piston rod 52 is sealed in its passage through the head 34 by a hat-shaped packing ring 56, held in place by a packing gland 58. The upper end of the piston rod is pivotally connected to the end of a handle 60 by a pivot pin 62, the handle being pivoted on a suitably formed link 64 which is pivotally mounted on a pin 66 which projects through a stud 68 threaded in the head 34. The sides of the stud 68 are flattened, as indicated in Fig. 2, and this stud is provided with a stop projection 70 adapted to be engaged by a depending lug 72 formed integrally with the handle 60, thereby to limit the downward stroke of the handle (upward stroke of the piston rod 52).

The pump may be operated in the conventional manner by raising and lowering the handle 60, thereby causing ejection of lubricant or other fluid from the reservoir 10 through a suitable discharge conduit which is adapted to be connected to the tapped opening 74 formed in the head 34 of the pump.

In the past, constructions similar to that above described have been in use, but in such constructions it was inconvenient to refill the reservoir 10 due to the fact that the handle 60 and its associated parts projected directly across the filling opening in the reservoir. In the present construction, the cover 38 is rigidly secured to the pump, and the pump and all its operating parts are mounted for rotation relative to the reservoir so that when it is desired to refill the reservoir 10, the wing nut 42 is loosened and the cover swung aside, as indicated in dotted lines in Fig. 1, merely by grasping the handle and swinging the cover, the pump, and all associated parts to the side, substantially clear of the filling opening. The pouring of lubricant or other material to be dispensed into the reservoir 10 is thus greatly facilitated, and the operation made more convenient with less wastage of the lubricant or fluid.

While I have shown and described a preferred

embodiment of my invention, it will be readily understood by those skilled in the art that variations may be made in the construction disclosed without departing from the basic features of my invention. I therefore do not wish to be limited to the precise construction disclosed, but wish to include within the scope of my invention all such modifications and variations which will readily suggest themselves.

What I claim as new and desire to secure by United States Letters Patent is:

1. A lubricant compressor comprising a reservoir having a filling opening therein, a pump for withdrawing lubricant from said reservoir and ejecting it under pressure, a cover rigidly secured to said pump and normally covering the filling opening in said reservoir, means for rotatably mounting said pump and cover assembly in said reservoir, and means for rotating said pump mechanism and cover simultaneously, to move said cover from a position covering the filling opening of said reservoir, whereby said reservoir may be refilled through the filling opening therein.

2. In a lubricant dispensing apparatus, the combination of a reservoir having a filling opening therein, a lubricant pumping mechanism having an operating handle normally extending over said opening in relatively close proximity thereto, a cover for the opening in said reservoir, means for rigidly securing said cover to said pumping mechanism, and means for rotatably mounting said pumping mechanism and cover assembly in said reservoir, whereby said cover may be swung from a position covering said filling opening to a position uncovering said opening upon rotation of said pumping mechanism and cover assembly.

3. A lubricant compressor comprising a reservoir having a filling opening therein, a pump cylinder mounted for rotation in said reservoir upon an axis spaced from the axis of said opening, a piston reciprocable in said cylinder, a piston rod connected to said piston, an operating handle pivotally connected to the outer end of said piston rod and normally positioned above the opening in said reservoir, a cover for said opening rigidly secured to said pump cylinder, and means for securing said cover in position over said opening, thereby holding said pump cylinder and pump operating mechanism against rotation with respect to said reservoir.

4. A lubricant compressor comprising a reservoir having a filling opening therein, a pump cylinder mounted for rotation in said reservoir upon an axis spaced from said opening, a piston reciprocable in said cylinder, a piston rod connected to said piston, an operating handle pivotally connected to the outer end of said piston rod and normally positioned above the opening in said reservoir, and releasable filling opening closure means for holding said pump cylinder and pump operating mechanism against rotation with respect to said reservoir.

5. A lubricant compressor comprising a reservoir having a relatively large filling opening in the top thereof, a pump cylinder having a piston reciprocable therein, a handle operatively connected to said piston and normally lying above the opening in said reservoir, means for pivotally supporting said pump cylinder in said reservoir for movement around a pre-determined axis, and a cover for said opening, said cover being rigidly secured to said pump cylinder, thereby to rotate therewith to and from a position over said opening.

6. A lubricant compressor comprising a relatively large reservoir having a filling opening therein, a pump for withdrawing lubricant from said reservoir and ejecting it under pressure, said pump being rotatably mounted with respect to said reservoir adjacent the upper end thereof and having a rigid part extending into said reservoir to a point adjacent the bottom thereof, a bracket secured to said reservoir and forming a bearing for the lower end of said pump part, a cover for the filling opening of said reservoir, and means rigidly securing said cover to said pump.

ERNEST W. DAVIS.