Nov. 11, 1924. 1,515,446

E. B. STELTER

FORCE PUMP OIL CAN

Filed July 3, 1924

Fig. 2.

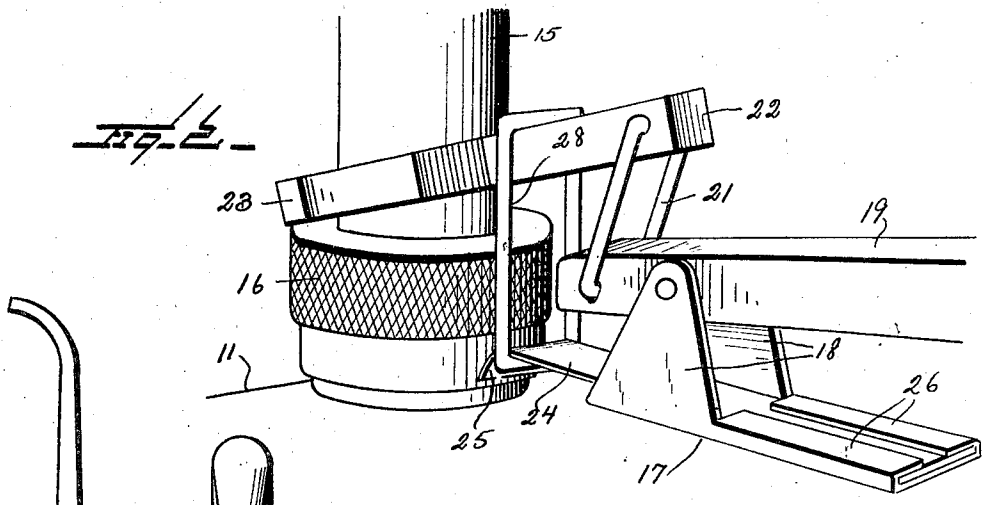


Fig. 1.

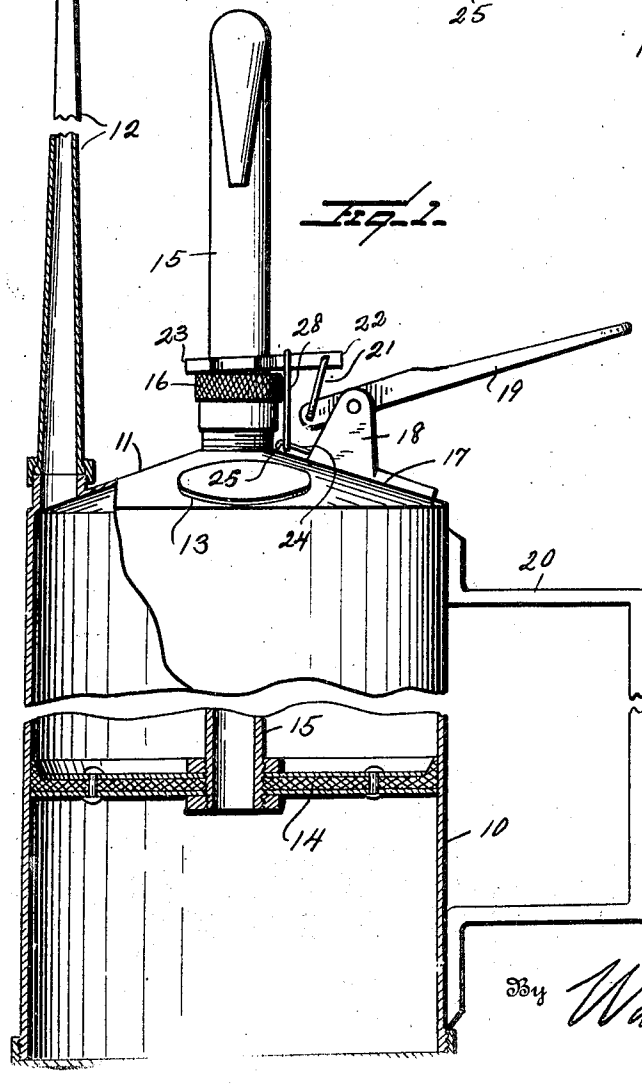
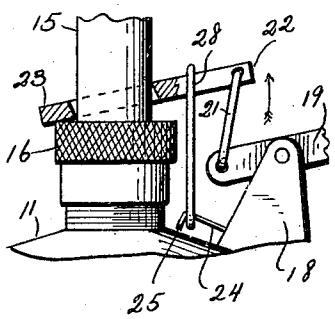


Fig. 3.



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UNITED STATES PATENT OFFICE.

EDWARD B. STELTER, OF HINGHAM, MONTANA.

FORCE-PUMP OIL CAN.

Application filed July 3, 1924. Serial No. 724,048.

To all whom it may conern:

Be it known that I, EDWARD B. STELTER, a citizen of the United States, residing at Hingham, in the county of Hill and State of Montana, have invented certain new and useful Improvements in Force-Pump Oil Cans, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in cans for dispensing lubricating oil or like materials, and particularly to certain improvements in the details of the can illustrated, described and claimed in my Patent #1,466,256, granted on August 28, 1923.

In this can there was shown a piston shiftable in one direction to force the oil out of the can and in the other direction to permit the can to be filled, and manually operable means were provided for giving a step by step movement to the piston in a direction to force the oil out, and means provided for holding the piston against any reverse movement. I have found in actual practice that one of these means may be omitted altogether and that a similar means may be used for causing the movement of the piston to expel the oil.

The object of the present invention is to provide a very simple means of this character for this purpose.

A further object is to provide means of a simpler and more improved character than those shown in the patent before referred to adapted to be actuated by the finger or thumb of the hand for giving a step by step movement to the piston to force the contents out of the oil can.

Other objects have to do with the detailed construction as will appear more fully hereafter.

My invention is illustrated in the accompanying drawing, wherein:—

Figure 1 is an elevation of a force pump oil can having my improvement applied thereto, the parts being broken away;

Figure 2 is a fragmentary perspective view of the upper portion of the can, showing in enlarged detail the means for lifting the piston;

Figure 3 is a fragmentary elevation of the upper portion of the oil can, showing the gripping ring in section.

Referring to this drawing, 10 designates the body of the oil can having an upwardly bowed top 11 and having an outlet spout 12 and a filling opening 13. The body of the oil can is constructed in accordance with my prior patent, and operating within the oil can body is a piston 14, the stem 15 of which is tubular and extends upward through the top of the oil can and specifically through a packing gland 16. The upper end of this piston is preferably made as illustrated in my prior patent, though I do not wish to be limited to this.

For the purpose of shifting the piston rod 15 upward in order to force the oil out through the spout 12, I mount upon the base 17 having the upwardly extending ears 18 the lever 19, this lever having a finger piece adjacent the handle 20 whereby the lever may be oscillated. The inner end of this lever is connected by a link 21 through an outstanding arm 22 carried by the clamping ring 23. This clamping ring has approximately the form in cross section of the tubular piston and loosely surrounds the tubular piston. The end of the clamping ring remote from the projecting arm 22 rests loosely upon the upper end of the gland 16.

Disposed between the ears 18 and resting upon the base 17 is a flat leaf spring 24. The inner end of this spring is formed to provide a hook 25 which engages with the lower cross bar of the link 28, while the rear end of this spring is supported against the base 17 by means of overturned flanges 26. Thus this spring 24 tends to pull the arm 22 downward and draw the clamping ring 23 into a horizontal position, as illustrated in Figure 1. The central aperture of the ring 23 is approximately concentric to the rod 15, but the axis of this central aperture is at an inclination to the axis of the rod 15. Thus when this locking ring or clamping ring 23 is in a horizontal position it will pass freely up and down upon the rod 15, but when this ring 23 is canted upward by means of the upward movement of the arm 22, the ring will bind upon the rod, as shown in Figure 3, and the upward movement of the ring will cause the upward movement of the rod. Thus whenever the thumb lever 19 is depressed, the rod 15 will be moved upward and the piston 14 along with it, thus expressing the oil or grease. As soon as the pressure on the lever 19 has been released, however, the spring 24 will act to pull the arm 22 downward and, therefore, carry the ring into a horizontal position, that is carry the ring to its initial position, the clamping ring

sliding downward upon the tube 15 but without having any clamping engagement with the tube. Upon the depression of the lever 19, however, the ring would again clamp upon the tube 15 and again the piston would lift it and thus a step by step motion of the rod 15 may be secured by successive oscillations of the thumb lever or thumb piece 19.

In my prior patent I showed a clamping ring or member which would lock the piston rod 15 from downward movement, but I have found in actual practice the piston 14 will fit so tight that there will be practically no downward movement under the weight of the liquid within the container so that there is no necessity of this locking ring, thus doing away with the number of parts on the original mechanism.

The operation will be obvious from what has gone before. The advantages of the device over my old construction reside in the simplicity of the mechanism, the elimination of the non-essential parts, and the positive action of the device.

I claim:—

1. In a device of the character described, a body, a piston therein, a piston rod extending out through the top of the body, a clamping ring surrounding the piston rod and adapted to engage the piston rod for unitary upward movement upon an upward movement of the clamping ring but to disengage with the piston rod and permit a downward movement of the clamping ring independent of the piston rod upon a downward movement of the clamping ring, means for oscillating the clamping ring comprising a lever mounted upon the body, a link pivoted to the lever, the clamping ring having an arm to which the link is pivoted, a spring resisting upward movement, and a link engaging the spring and the clamping ring and urging the arm of the clamping ring downward and the ring into a horizontal position.

2. In a device of the character described, a body, a piston therein, a piston rod extending out through the top of the body, a clamping ring surrounding the piston rod and adapted to engage the piston rod for unitary upward movement upon an upward movement of the clamping ring but to disengage with the piston rod and permit a downward movement of the clamping ring independent of the piston rod, a member mounted upon the top of the body and having upwardly extending ears, a lever pivoted between the ears, a link pivotally engaging the lever, the clamping ring having an arm with which the link pivotally engages, said member extending outward beyond the ears and being provided with inwardly turned flanges, a leaf spring resting upon said member between said ears and engaged at one end beneath said flanges and having its opposite end downwardly turned, and a link engaging this downwardly turned end of the spring and extending over the arm of the clamping ring.

3. In a device of the character described, a body having an arm, a piston rod extending through the top, a gland carried by the top and through which the piston rod extends, a clamping ring surrounding the piston rod and resting at one point upon the top of the gland and normally supported in an approximately horizontal position, said ring having an arm, the ring when canted upward by the arm engaging the piston rod for unitary movement but the ring when moved toward a position at right angles to the piston rod disengaging from the piston rod, means for oscillating the link comprising a lever operatively supported upon the top of the body, a link pivotally connecting the lever to the arm, a spring operatively supported upon the top of the body, and a link connected to said spring and engaging over the arm of the ring.

In testimony whereof I hereunto affix my signature.

EDWARD B. STELTER.