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N. J. NOLAN

2,715,949

HINGE LID OILER

Filed Jan. 10, 1952

FIG. 1.

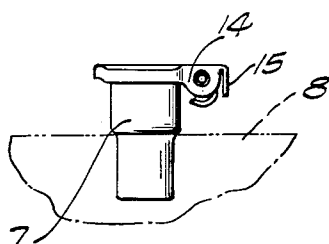


FIG. 2.

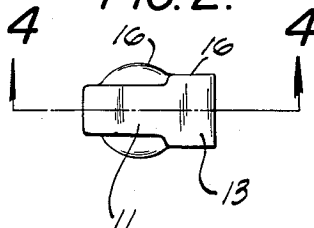


FIG. 3.

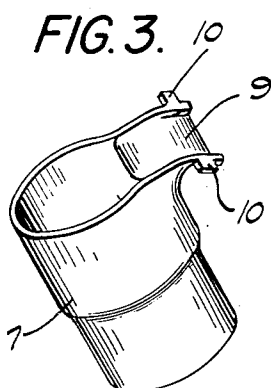


FIG. 4.

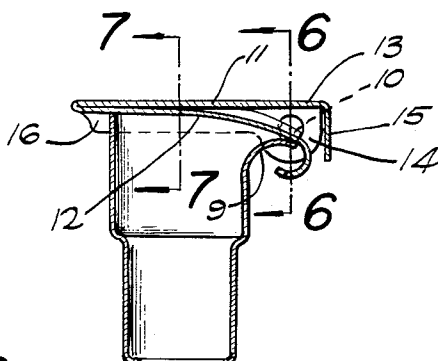


FIG. 7.

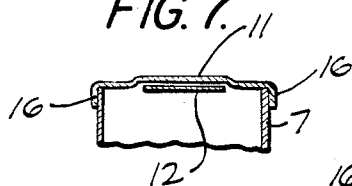


FIG. 9.

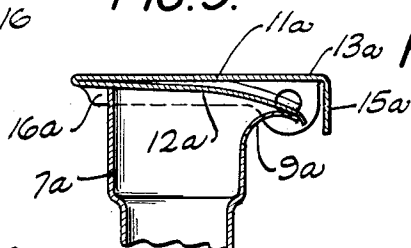


FIG. 5.

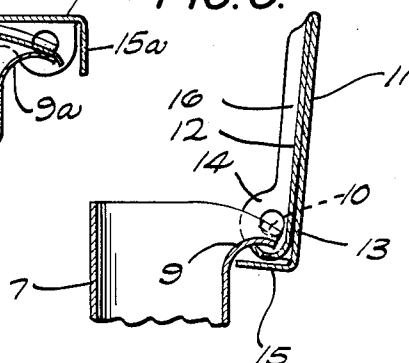


FIG. 6.

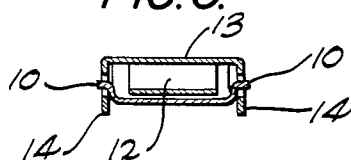
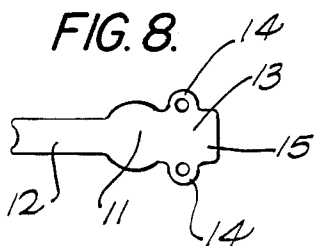


FIG. 8.



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HINGE LID OILER

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7 Claims. (Cl. 184—91)

My invention relates to a new and useful improvement in a hinge lid oiler adapted for mounting on machinery of various types and providing an inlet through which oil may be deposited for lubricating purposes. On such oilers there is usually provided a tubular member commonly referred to as an oil cup. Swingably mounted on this tubular member or oil cup is a hinge normally retained in closed position by means of a coil spring.

The present invention has as its object a provision in a device of this class which will be simple in structure, economical of manufacture, durable, highly efficient in use and easily and quickly assembled.

Another object of the invention is the provision of a hinge lid oiler having a swingable cover normally held in closed position by a spring which is formed integral with the cover itself.

Another object of the invention is the provision in a hinge lid oiler of this class of a construction whereby the swingable cover is normally held in position by a spring integral with the cover and so constructed that the cover, even when swung open beyond the center, will still be forced into closing position by the spring element.

Another object of the invention is the provision in a hinge lid oiler of this class of a construction whereby the swingable cover is normally moved to closing position after being swung to open position, regardless of the degree of swinging whereby the cover may be swung to entirely clear the entry of the oiler.

Another object of the invention is the provision in a hinge lid oiler of this type of a construction whereby the cover, which is swingably mounted, is normally moved to closed position by means of a spring member integral with the cover, the cover being so constructed and arranged that it may be swung beyond the center when moved to open position and still returned to closing position and whereby the swinging of the cover after it has passed center is limited by an abutment member.

Other objects will appear hereinafter.

It is recognized that various modifications and changes may be made in the detail of structure illustrated without departing from the invention and it is intended that the present disclosure shall be considered but the preferred embodiment.

Forming a part of this application are drawings in which:

Fig. 1 is a side elevational view of the invention,

Fig. 2 is a top plan view of the invention,

Fig. 3 is a perspective view of the cup forming portion with the cover removed.

Fig. 4 is an enlarged sectional view taken on line 4—4 of Fig. 2,

Fig. 5 is a view similar to Fig. 4 with the cover moved to open position beyond center,

Fig. 6 is a sectional view taken on line 6—6 of Fig. 4,

Fig. 7 is a fragmentary sectional view taken on line 7—7 of Fig. 4,

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Fig. 8 is a plan view of the blank from which the cover is made,

Fig. 9 is a view similar to Fig. 4 showing a slight modification.

In a hinge lid oiler of this class there is usually provided a tube 7, commonly called an oil cup. This tube 7 is mounted, usually by a press fit, in an opening formed in the body 8 into the interior of which it is desired to deliver lubricant. The cup or tube 7 is provided at one end with a laterally projected tongue 9, extending outwardly from opposite sides of which are the lugs 10. A cover is swingably mounted on this cup forming portion and this cover is struck from the blank shown in Fig. 8. The cover comprises the body 11, or cover proper, extending outwardly from one side of which is a tongue 12. Extending outwardly from the opposite side of the body 11 is a portion 13, projecting outwardly from which is a pair of lugs 14, each of which has an opening formed therethrough and this blank terminates in the portion 15. As clearly shown in the drawings, the tongue 12 is doubled upon the body 11 on the under side thereof and the lugs 14 are bent to extend at right angles to the portion 13 and the portion 15 is also bent to extend at right angles to the portion 13. Consequently the cover 11 has a portion 13 extending radially outwardly therefrom at one side, projecting downwardly from which is a flange 15. The tongue 12 terminates in a curved portion, which curves around under the tongue 9, as clearly shown in Fig. 4. The lugs 10 engage in the openings formed in the lugs 14, so that the body is thus swingably mounted on the cup or tube 7. At opposite sides of the cover proper are the downwardly pressed flanges 16, which embrace the periphery of the tube or cup 7.

When the cover is formed, as illustrated in Fig. 4, it may be pressed downwardly into position on the end of the cup or tube 7 and the lugs 14 will spring outwardly sufficient to allow the lugs 10 to snap into the openings formed in the lugs 14 to thus pivotally mount the cover on the tube 7. It will be noted that the tongue 12, which is formed integral with the cover 11 and which is of resilient material, is curved away from the under surface of the cover 11 toward the pivoted end and this free end of the tongue 12 is under tension, normally tending to keep the cover in closed position. As the cover is swung to open position the face of the tongue 12 rides along the edge of the tongue 9 as a cam, so that the spring pressure of the tongue, tending to move the cover to closed position, is increased. In Fig. 5 I have illustrated the cover swung to open position beyond the center and prior to swinging into this position the end of the curved portion 13 will engage the lower face of the tongue 9 and be placed under tension. Consequently when the thrust moving the cover to open position, as shown in Fig. 5, is released, the curved portion of the tongue will be under sufficient tension to move the cover toward closing position until it passes center and thereupon the tongue 12, riding on the edge of the tongue 9, will complete the movement and retain the cover in closed position.

The structure is one which has proven most efficient in use, as the cover is always retained in tightly closed position while, at the same time, it may be swung toward open position a sufficient distance to clear the entry end of the cup or tube 7 and allow the maximum area of this tube or oil cup to be accessible for deposit of lubricant therein. At the same time there is no likelihood of this cover remaining in open position when the lifting pressure is removed from it.

In Fig. 9 I have shown a slightly modified form in which the cover 11a is provided with the flange 15a extending downwardly from the portion 13a. The construction of this structure shown in Fig. 9 is the same as

that shown in Fig. 4 and the same reference numerals are used except that they are provided with the additional identifying letter "a." It will be noted, however, that the curled terminal portion of the tongue 12, shown in Fig. 4 has been eliminated and the flange 15 is adapted to engage the tube 7 and limit swinging movement in one direction. In this form the tongue 12a engages adjacent its end with the edge of the tongue 9a, so that the closed operation of the spring is the same as that of the form shown in Fig. 4.

It will be noted that the centers at the point of pivot are above the member 12. This is clearly seen in Fig. 6 and in Fig. 4. It will also be noted that this spring 12 contacts the member 9 or 9a at a point below the point of pivot. This type of construction renders the action of the structure possible.

What I claim is:

1. A hinge lid oiler of the class described comprising a tubular member; a tongue extended outwardly from one side of said tubular member, adjacent one end thereof, and said tongue being curved toward its end; a pivot lug projecting outwardly from each of the opposite sides of said tongue adjacent the end of said tongue; a one-piece cover comprising a body portion; a tongue formed integral with said body portion and doubled thereunder and extending rearwardly thereof and spaced from the under surface thereof adjacent its free end; a pair of lugs carried by said cover swingably mounted on said first named lugs, one face of said second named tongue engaging the edge of said first named tongue below said pivot lugs and being formed of resilient material for normally retaining the cover in closing position.

2. A hinge lid oiler of the class described comprising a tubular member; a tongue extended outwardly from one side of said tubular member, adjacent one end thereof, and said tongue being curved toward its end; a pivot lug projecting outwardly from each of the opposite sides of said tongue adjacent the end of said tongue; a one-piece cover comprising a body portion; a tongue formed integral with said body portion and doubled thereunder and extending rearwardly thereof and spaced from the under surface thereof adjacent its free end; a pair of lugs carried by said cover swingably mounted on said first named lugs, one face of said second named tongue engaging the edge of said first named tongue and being formed of resilient material for normally retaining the cover in closing position; and a curved terminal portion on said second named tongue curved to extend under the said first named tongue and engageable with the under surface thereof upon swinging of said cover toward open position beyond center for exerting a closing thrust on said cover until said cover has swung toward closing position beyond center.

3. A hinge lid oiler of the class described comprising a tubular member; a tongue extended outwardly from one side of said tubular member, adjacent one end thereof, and said tongue being curved toward its end; a pivot lug projecting outwardly from each of opposite sides of said tongue adjacent the end of said tongue; a one-piece cover comprising a body portion; a tongue formed integral with said body portion and doubled thereunder and extending rearwardly thereof and spaced from the under surface thereof adjacent its free end; a pair of lugs carried by said cover swingably mounted on said first named lugs, one face of said second named tongue engaging the edge of said first named tongue and being formed of resilient material for normally retaining the cover in closing position; and a curved terminal portion on said second named tongue curved to extend under the said first named tongue and engageable with the under surface thereof upon swinging of said cover toward open position beyond center of exerting a closing thrust on said cover until said cover has swung toward closing position beyond center; and a flange on said cover extended at right angles to the plane thereof

and engageable with the periphery of said tube upon swinging of said cover toward open position beyond a predetermined distance for limiting swinging movement of said cover.

4. A hinge lid oiler of the class described comprising a tubular member; a tongue extending outwardly from one side of said tubular member, adjacent one end; a lug projecting outwardly from opposite edges of said tongue adjacent the end of said tongue; a one-piece cover formed from resilient material and comprising a body and a tongue doubled upon said body and extending rearwardly from the forward end thereof beneath said body and curving away from the under surface of said body adjacent its free end and engageable with said first mentioned tongue; lugs on said cover for swingable mounting on said first named lugs, said second named tongue engaging said first named tongue, upon swinging of said cover toward open position and normally tending to move said cover to closed position.

5. A hinge lid oiler of the class described comprising a tubular member; a tongue extending outwardly from one side of said tubular member, adjacent one end; a lug projecting outwardly from opposite edges of said tongue adjacent the end of said tongue; a one-piece cover formed from resilient material and comprising a body and a tongue doubled upon said body and extending rearwardly from the forward end thereof beneath said body and curving away from the under surface of said body adjacent its free end and engageable with said first mentioned tongue; lugs on said cover for swingable mounting on said first named lugs, said second named tongue engaging said first named tongue, upon swinging of said cover toward open position and normally tending to move said cover to closed position; and a downwardly extending flange on the rear end of said cover engageable with the periphery of said tube upon swinging of said cover toward open position to a predetermined distance.

6. A hinged lid oiler of the class described, comprising: a tubular member; a tongue extending outwardly from one side of said member adjacent one end; a lug projecting outwardly from each of the opposite edges of said tongue, adjacent the end of said tongue; a one-piece cover formed from resilient material and comprising a body having a front end and a rear end; a tongue secured to said body adjacent its front end and projecting beyond the rear end of said body, and lying beneath said body and curving away from the under surface of said body, adjacent its free end, and engageable with said first-mentioned tongue; lugs on said cover for swingably mounting said cover to said first-named lugs, said second named tongue engaging said first-named tongue upon swinging of said cover toward open position and normally tending to move said cover to closed position.

7. A hinged lid oiler of the class described, comprising: a tubular member; a tongue extending outwardly from one side of said member adjacent one end; a lug projecting outwardly from each of the opposite edges of said tongue, adjacent the end of said tongue; a one-piece cover formed from resilient material and comprising a body having a front end and a rear end; a tongue secured to said body adjacent its front end and projecting beyond the rear end of said body, and lying beneath said body and curving away from the under surface of said body, adjacent its free end, and engageable with said first-mentioned tongue; lugs on said cover for swingably mounting said cover to said first-named lugs, said second-named tongue engaging said first-named tongue upon swinging of said cover toward open position and normally tending to move said cover to closed position; said second-named tongue extending beyond the edge of said first-named tongue and lying below the location of said first-named lugs.

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