July 16, 1957 S. MALKO 2,799,434

OIL CONTAINER AND DISPENSING DEVICE

Filed March 3, 1955

Fig. 1.

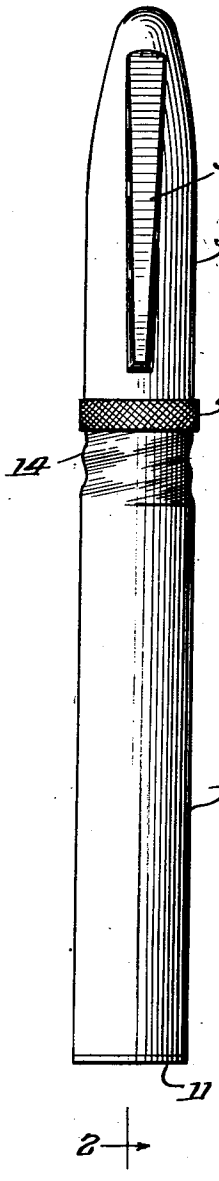


Fig. 2.

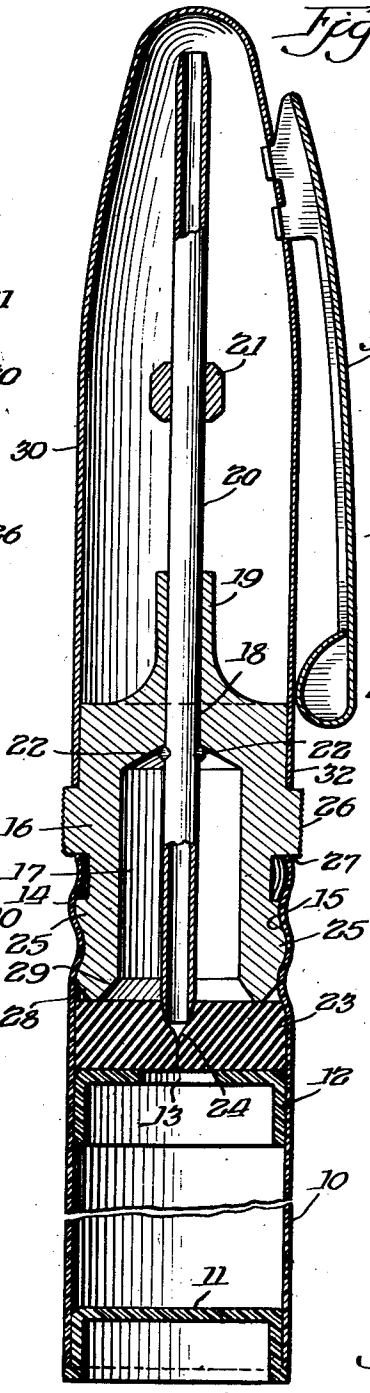
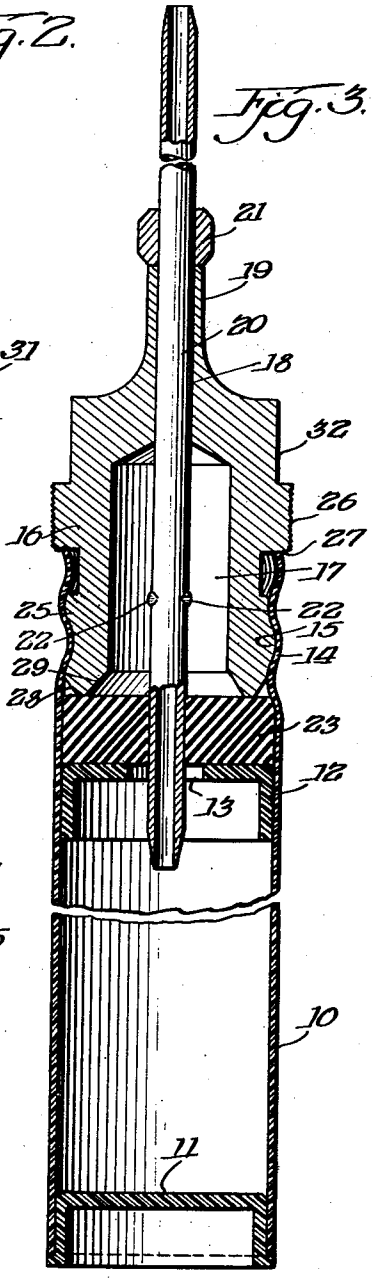


Fig. 3.



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OIL CONTAINER AND DISPENSING DEVICE

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6 Claims. (Cl. 222—211)

My invention relates to an oil container and dispensing device which is adapted primarily for household, office, pocket and outing use for application of oil to the moving parts of various kinds of appliances, typewriters, fishing reels, sporting goods, and the like, and where an oil container is carried for purposes of convenience and in which the oil is confined without leaking from the container onto the clothes of the wearer if carried in the pocket or onto the tools, fishing equipment, etc. if carried in a tool box or a fishing tackle box, etc.

Another object of my invention is the provision of an oil container and dispensing device in which different containers with varying kinds of oil therein can be supplied and used with one dispensing unit and in which a packet can be made up consisting of a plurality of various containers with different oils therein and a single dispensing unit, which can be transferred from one container to another and in this way a variety of oils can be provided to suit the varying needs of miscellaneous oiling applications.

Another and further object of my invention is the provision of an oiling dispenser in which containers for use with the dispensers can be sold separate and apart from the complete unit and which will enable a purchaser to buy a small quantity of oil which is particularly adapted for his purpose or to renew his supply of oil for use with a dispenser which he already possesses at a cheaper price than what he would pay for the entire unit and in this manner he obtains a small container of oil for miscellaneous purposes to which the dispensing unit can be readily attached.

Another and further object of my invention is the provision of an oil container and dispenser and in which a separate unit filled with oil can be shipped, stored or handled without possibility of leakage and substituted at any time quickly and easily for a container which has been emptied of the oil originally included therein.

Another and further object of my invention is the provision of a dispensing device in which various kinds and types of oil can be carried in reserve units for use at any time with a dispensing device and in which the oil is sealed in the container and will not leak therefrom or be spilled, thus avoiding the refilling operations often used in connection with these oil dispensing devices and in which the oil leaks over the hands of the user and onto the clothing of the user and a disagreeable task is avoided through buying the oil in sealed containers and attaching them to the dispensing unit quickly and without spillage of any kind.

Another and further object of the invention is the provision of a pocket oiler in which the oil is dispensed in the form of droplets, or the like, so that only a small quantity of oil is applied to any surface needing lubrication, such as a fishing reel, gun, sewing machine, or the like, and in which only a very thin film of oil is needed to properly lubricate the parts.

These and other objects of my invention will be more

readily understood by reference to the accompanying sheet of drawings and in which—

Fig. 1 is an elevational view of my improved device shown in slightly enlarged form.

Fig. 2 is a longitudinal sectional elevation on lines 2—2 of Fig. 1 showing the dispensing unit in closed position with a holding cap on the end thereof.

Fig. 3 is a view similar to Fig. 2 with the holding cap omitted and showing the dispensing device with the tube in oil-dispensing position.

Referring now specifically to the drawings and in which like reference characters refer to like parts throughout, an elastic transparent tubular container **10** is shown, preferably made of a plastic material, having a permanently positioned closure cap **11** in one end thereof and having an internal support cap **12** positioned inside of the container **10** and held in place usually by friction, although it may be cemented, between the flange portion of the member **12** and the surface of the inside wall of the container **10**, the member **12** having an opening **13** therein for purposes hereinafter described. The end of the container **10** has external threads **14** adjacent one end, with internal threads **15** being provided, with a plug **16** made of metal or the like, the lower portion of which is externally threaded, the said plug **16** having a recess **17** therein adjacent its lower end, having a bore **18** therein through its upper portion and through an extension **19** forming a part of the plug **16**, the bore **18** having a small tube **20** movably positioned therein, the tube **20** having an upper stop **21** thereon and intermediate stops **22, 22** thereon which limit the sliding movement of the tube **20** in each direction and engage against the end of the projection **19** and the wall of the plug **16** at the top of the recess **17** respectively when the tube is in its movably extended position and also outwardly extended position, as shown in Fig. 2 and as will be more fully described hereinafter. An upper closure member **23** is provided which is secured to and rests upon the top of the member **12**, the closure member **23** being made preferably of synthetic rubber or of a rubber composition, both highly resistant to oil. The closure member **23** is laterally compressed and fitted into the container **10** adjacent the top thereof, but spaced therefrom as shown in Figs. 2 and 3. The closure member **23** has a pierced perforation **24** therethrough which is centrally positioned with respect to the member **23** and directly in line with the opening **13** in the member **12** and which normally is closed because of the elasticity of the closure member until opened by forcing the tube **20** therethrough. The plug has external threads **25** thereon at one of its ends so that it enters into threaded engagement with the internal threads **15** on the container **10**. An integrally formed collar portion **26** of the plug **16** is provided having an annular shoulder **27** thereon which engages against the upper edge of the container **10** when the plug is tightly screwed into position against the top of the container **10**. The lower end of the plug **19** is in annular form and has a tapering outside wall **28** and a tapering inside wall **29** providing a narrow outer edge portion which, when the plug is turned into full closed position as shown in Fig. 2, exerts pressure on the elastic closure member **23** which, in addition to the elastic character of the material itself, insures that the perforation in the member **23** is closed on the side adjacent the oil contained in the container **10** and also engages tightly the tip of one end of the tube **17**, as shown particularly in Fig. 2 of the drawings, so that the tube **20** is closed against both the admission of oil and air into the tube **20** at its lower end. A cap **30** is provided having a pocket clip **31** secured thereto which is adapted to be fitted over the upper end **32** of the plug **16** and frictionally held in position so that the device may be carried in a

pocket of the user and clipped over the edge of the user's pocket to be held in position, if desired.

In assembling the device, open tube containers **10** are provided into which the elastic member **23** and member **12** are inserted from the bottom and the device may or may not be filled with oil as desired and the cap **17** placed in position and sealed to the tubular walls **10** by means of an appropriate cement such as acetone, etc. which may also be applied to the flanges of the member **12** which are in contact with the inside surface of the container **10**. Thereafter the plug and tube assembly is threaded into position in the end of the container **10**, in which position the lower end of the container **10** extends into the perforation **24** in the seal **23** a slight distance, as shown in Fig. 2, when the plug is turned into position with the upper end of the container **10** in engagement with the under side of the collar portion **26** and the stops **22** are in engagement against the wall of the plug **16**, thereby sealing the tube **20** at its lower end. In this condition the unit can be packed, shipped and marketed with a container filled with oil, together with an extra number of containers containing different varieties or an additional quantity of the same kind of oil, if desired.

Additional containers filled with oil are easily provided in that the oil is completely sealed in the container **10** by the lower end cap **11** and sealing member **23**, but for purposes of sale, transportation, etc. an internally threaded screw cap (not shown) is threaded to the upper end of the container **10** to protect the elastic seal **23** from being pierced or displaced. This would not be likely because the sealing member **23** is compressed and placed into the tubular container **10** under tension and with the upper edge thereof adjacent the beginning of the threaded portion of the tube, so that any further upward movement of the sealing member **23** would be restricted by the narrowing of the threaded section of the tube because the threads are placed in the body of the flexible member, thereby providing both external and internal threads. The plug **32** is threaded into the internal threads on the threaded end of the container **10**, while the cap referred to is threaded over the end of the container externally thereof.

It is believed the operation of the device will be readily understood from the foregoing description in that when it is desired to use the oiler, the cap **30** is removed and by manual operation the tube **20** is pushed inward toward the body of the container **10** until the lower end thereof, passing through the perforate closing member **23**, extends into the body of the oil container **10**, in which position pressure on the flexible side walls of the container will force oil from the discharge end of the tube **20** in the form of very small droplets because of the very small bore of the tube **20** and the fact that air must enter the body of the container to replace the oil passed out through the tube **20**. Pressure is necessary on the flexible walls of the container **10** to force the oil out of the container and when the pressure is released the oil in the tube is pulled back into the container by the force of air passing through the tube **20** into the container **10**. After the oiler has been used, the tube **20** is pulled outward until the stops **22** engage against the wall of the plug **22** (as shown particularly in Fig. 2), in which position the tube **20** is only partially withdrawn into the sealing member **23**, which closes over the end of the tube in the nature of a valve, thus preventing oil from reaching the end of the tube. Because of the manner in which the oil passes out of the tube **20** during oil discharge, there is very little oil remaining in the tube due to the action of the air and capillary attraction of the oil to the sides of the tube, although a very limited quantity may remain on the sides of the tube but not enough to flow out of the end of the tube, so that after the tube is withdrawn into the position shown in Fig. 2 of the drawings, the end of the tube is perfectly dry and

no further oil can be obtained from the tube, so that it is perfectly safe to be carried in the pocket of the user without soiling the clothes, etc. When it is desired to supply the dispensing apparatus with a new tube of oil, the cap from the end of the tube heretofore described is removed, the plug **32** and dispensing apparatus threaded internally into the container **10**, which threading operation forces the lower end of the tube **20** partially into the sealing member **23**, and use proceeds in the same manner as hereinabove described.

While I have described more or less precisely the details of construction, I do not wish to be understood as limiting myself thereto, as I contemplate changes in form, the proportion of parts and the substitution of equivalents as circumstances may suggest or render expedient without departing from the spirit or scope of my invention.

What is claimed is:

1. An oil container and dispenser comprising in combination, a container, a closure member at one end of the container, an elastic closure member adjacent the opposite end of the container having a perforation therein, a plug mounted at the end of the container adjacent the elastic closure member, a tube slidably mounted in the said plug extending into contact with the perforated closure member at one of its ends and extending beyond the plug at its opposite end and stops on the said tube whereby the movement of the tube is limited, the tube extending through the elastic closure member in one of its positions and partially therein in its other position whereby one end of the tube is sealed.

2. An oil container and dispenser comprising in combination, a container having flexible walls, a closure member at one of its ends, an elastic closure member adjacent the opposite end of the container having a perforation therethrough, a plug mounted at the end of the body member adjacent the elastic closure member extending into contact with the perforate closure member at one of its ends, an outlet tube slidably mounted in the said plug and spaced limit stops on the said tube adapted to engage the said plug whereby the movement of the tube is limited in each direction of its movement, the said tube adapted to extend through the elastic closure member in one of its positions and partially free of the said closure member in its outward extended position and the elastic closure member closing the perforations when the tube is withdrawn therefrom, thereby sealing the container and also sealing one end of the said tube.

3. An oil container and dispenser comprising in combination, a tubular container having flexible walls and internally and externally threaded at one of its ends, a closure member at one of its ends, a compressed internal perforate elastic closure member at the opposite end in spaced relation from the end of the said container, a plug in threaded engagement at one of its ends with the threaded end of the container, one end of the plug exerting a pressure upon the elastic closure member, the said plug having a longitudinally extending bore therein, a tube slidably mounted in the bore in the said plug and spaced limit stops on the said tube whereby the distance of movement of the said tube in each direction is limited by contact of the limit stops, the said tube in one position extending entirely through the perforation in the elastic closure member and in its other position extending only partially into the elastic member whereby the end of the tube is sealed and the perforation closed.

4. An oil container and dispenser comprising in combination, a tubular container having flexible walls and internally and externally threaded at one of its ends, a closure member at the other end, a compressed internal perforate elastic closure member in said container spaced a short distance from the threaded end of the said container, a plug in threaded engagement at one of its ends with the container, the plug having an annular portion at its lower end in pressure position on the elastic closure member when in position in the body member, the plug hav-

ing a longitudinally extending bore therein, a tube slidably mounted in the bore in the said plug, spaced limit stops on the said tube whereby the distance of movement of the said tube in each direction is limited by contact with the said plug, the said tube in one position extending entirely through the perforation in the elastic closure member and in its other position extending only partially into the elastic member whereby the end of the tube is sealed and the perforation is closed through its area beyond the end of the tube.

5. An oil container and dispenser comprising in combination, a tubular container having flexible walls and internally and externally threaded at one of its ends, a closure member at the other end, a compressed internal perforate elastic closure member in said container spaced a short distance from the threaded end of the said container, a plug in threaded engagement at one of its ends with the container, the plug having an annular portion with inclined wall portions at its lower end in pressure position on the elastic closure member when in position in the body member, the plug having a longitudinally extending bore therein, a tube slidably mounted in the bore in the said plug, spaced limit stops on the said tube whereby the distance of movement of the said tube in each direction is limited by contact with the said plug, the said tube in one position extending entirely through the perforation in the elastic closure member and in its other position extending only partially into the elastic member whereby the end of the tube is sealed and the perforation is closed through its area beyond the end of the tube.

6. An oil container and dispenser comprising in combination, a tubular container having flexible walls and internally and externally threaded at one of its ends, a closure member at the other end, a compressed internal perforate elastic closure member in said container spaced a short distance from the threaded end of the said container, a plug in threaded engagement at one of its ends with the container having a longitudinally extending bore therein, a tube slidably mounted in the bore in the said plug, spaced limit stops on the said tube whereby the distance of movement of the said tube in each direction is limited by contact with the said plug, the said tube in one position extending entirely through the perforation in the elastic closure member and in its other position extending only partially into the elastic member whereby the end of the tube is sealed and the perforation is closed through its area beyond the end of the tube, the plug having an annular portion therein for engagement with the end of the container forming a limit stop for the said plug.

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