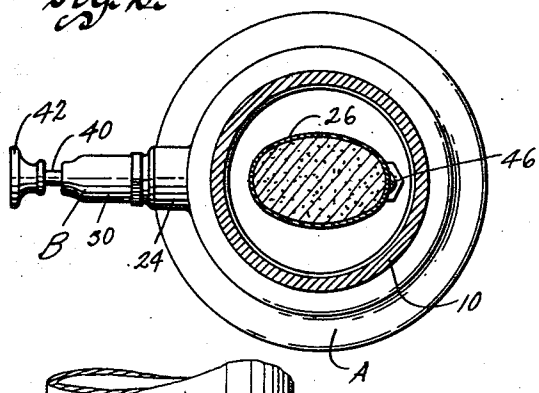
May 28, 1929. H. J. COCKS 1,715,335

DISPENSER

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Fig. 2.



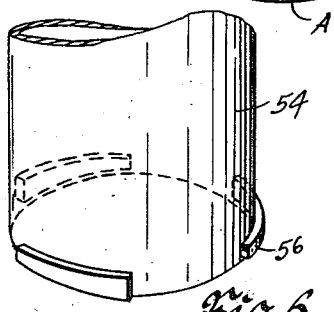


Fig. 6.

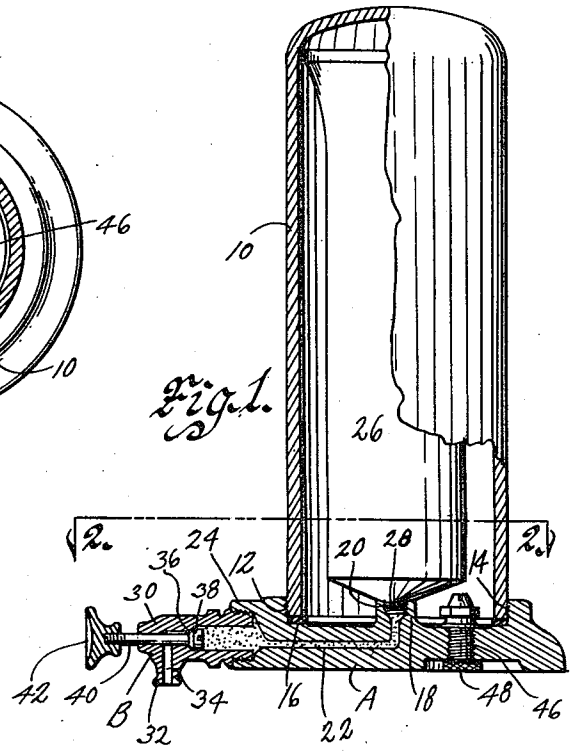


Fig. 1.

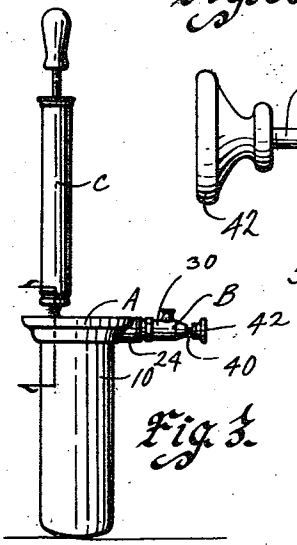


Fig. 3.

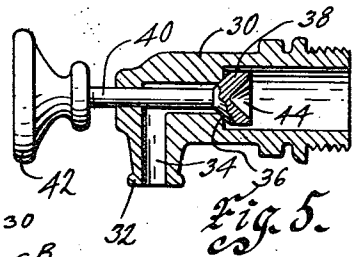


Fig. 5.

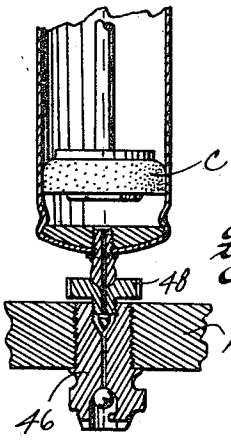


Fig. 4.

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DISPENSER

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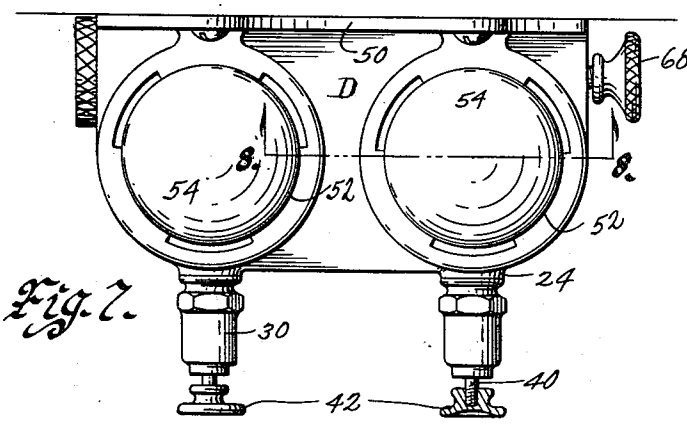


Fig. 7.

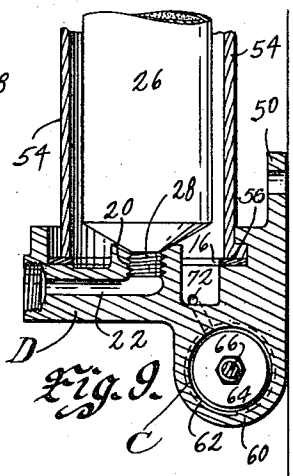


Fig. 9.

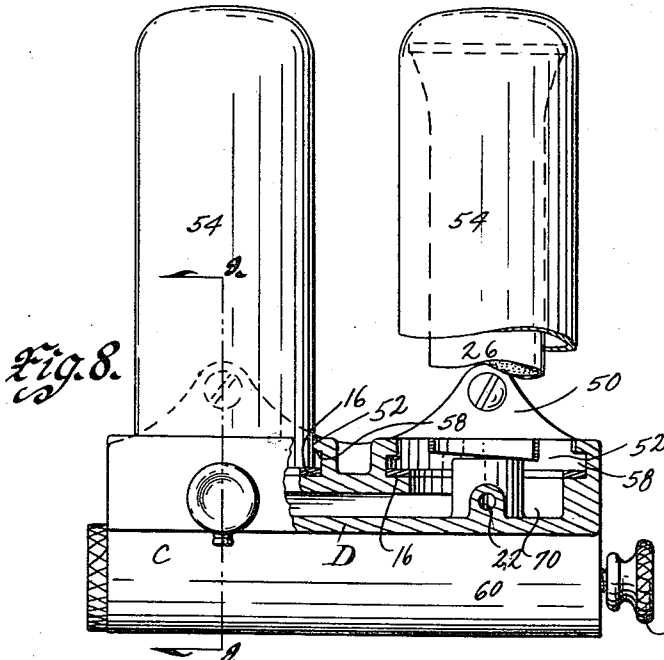


Fig. 8.

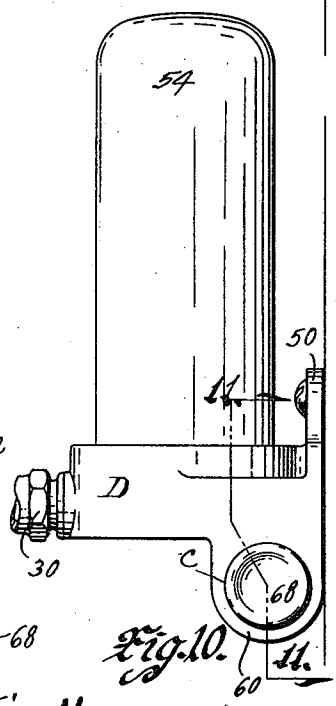


Fig. 10.

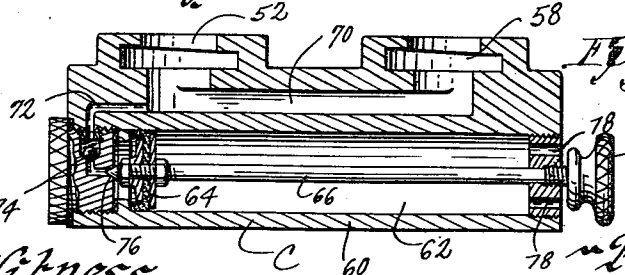


Fig. 11.

Witness
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Patented May 28, 1929. 1,715,335

UNITED STATES PATENT OFFICE.

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DISPENSER.

Application filed September 27, 1927. Serial No. 222,319.

The object of my invention is to provide a dispenser for dispensing of semi-hard substances such as soap, vanishing cream, tooth paste and the like, which ordinarily come packed in collapsible tube containers whereby small amounts of the contents of the collapsible container may be dispensed ordinarily.

Still a further object is to provide an air tight container adapted to have a collapsible tube filled with semi-hard contents placed within the container so that when the container is filled with air, there will be a tendency of the air within the container to collapse the tube and force the contents therefrom through a discharge nozzle or valve which valve is adapted to be manually operated.

Still a further object is to provide a valve controlled passageway whereby air may be forced into the air tight container for building up a pressure therein.

Still another object is to provide a manually operable valve or nozzle adapted to be normally held in closed position by the contents from within the collapsible tube.

A further object is to provide a pump element for forcing air into the container so that the collapsible tube may be automatically or by air pressure, collapsed for forcing the contents therefrom.

With these and other objects in view my invention consists in the construction, arrangement and combination of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which:

Figure 1 is a side view of my dispenser with parts shown in section to better illustrate the construction thereof.

Figure 2 is a horizontal sectional view taken on the line 2—2 of Figure 1.

Figure 3 is an inverted view of the dispenser shown in Figure 1, with a pump element for charging the dispenser with air.

Figure 4 is a detail sectional view showing the valve construction and a portion of the pump element.

Figure 5 is an enlarged detail sectional view of the valve or nozzle structure.

Figure 6 is a perspective view of the lower end of one of the containers forming a part of my dispenser.

Figure 7 is a top plan view of a pair of containers arranged in series.

Figure 8 is a front view of the same, parts being broken away and shown in section.

Figure 9 is a sectional view taken on the line 9—9 of Figure 8.

Figure 10 is an end view of the bracket and container shown in Figure 8; and

Figure 11 is a sectional view taken on the line 11—11 of Figure 10, illustrating the pump element for supplying air to the containers when arranged in series.

Although the invention is susceptible of a variety of embodiments, it is unnecessary to fully describe and illustrate more than one in order to give a full understanding of the invention both from its structural and functional standpoints. Accordingly, I have illustrated a preferred and desirable embodiment of the invention in the accompanying drawings in which A represents the base of my dispenser and 10, a tubular container closed at its upper end and open at its bottom end.

The base A is formed with an interiorly screw threaded socket 12 adapted to receive the lower end of the container 10. The container 10 is formed adjacent its lower end with screw threads 14 adapted to coact with screw threads of the socket 12. A suitable washer 16 of compressible material is adapted to be received within the socket 12 and to have the lower end of the casing 10 rest thereon, thus forming an air tight connection between the container 10 and the base A.

Within the center of the socket 12 and formed as part of the base A is an upstanding neck 18 having a central screw threaded opening 20 therein. A passageway 22 extends from the screw threaded opening 20 through the base A and through a hub 24 formed as part of the base A all clearly illustrated in Figure 1 of the drawings.

Mounted upon the base A and within the container 10 is a collapsible tube 26 adapted to contain any semi-hard substance such as shaving soap, vanishing cream or the like, normally dispensed in so-called "collapsible tubes". The collapsible tube 26 is normally provided with a screw threaded neck 28 for ordinarily containing a cap or closure member.

I make use of the screw threaded neck 28 and screw it into the screw threaded opening

20 in the member 18. The collapsible tube 26 is thus mounted upon the base A and within the container 10. The contents of the tube 26 is permitted to pass through the opening 22 as will hereinafter be more fully set forth.

A nozzle or valve mechanism B is mounted upon the base A and is in communication with the hub 24. The valve B includes a body portion 30 having a discharge spout 32 formed thereon provided with a passageway 34. The passageway 34 extends both vertically and horizontally and is in communication with the passageway 22 formed in the base A.

Within the body portion 30 I provide a valve seat 36 adapted to have the valve member 38 rest thereagainst for closing the passageway within the body member 30. A valve stem 40 projects through the body member 30 and has a knob or finger engaging piece 42 secured thereto by means of screw threads or the like.

The inner surface of the valve member 38 is substantially cup-shaped or dished as at 44. It will be noted that the substance to be dispensed will normally fill the passageway 22 and that portion of the passageway rearwardly of the valve member 38. The substance will tend to force the valve member 38 to its seated position.

An ordinary pump C of any suitable kind is used for charging or filling the container 10 with air. This is accomplished by a needle valve construction 46 formed in the base A. The needle valve and its adjusting nut 48 are moved to open position as shown in Figure 4 of the drawings and thereafter, the pump is employed for forcing a considerable amount of air into the container 10 to build up a pressure therein.

After the container 10 has been charged with air then the needle valve adjusting nut 48 is moved to closed position. The compressed air within the container 10 tends to exert a pressure upon the collapsible tube 26 tending to collapse it and at the same time, force the contents therefrom outwardly.

The valve member B may be operated by moving the valve stem 40 inwardly and at this time a portion or small amount of the contents from the tube 26 will pass around the valve member 38 and be discharged through the nozzle 32. The pressure of the contents against the valve member 38 will when the valve stem 40 is released, immediately move it to closed position.

It will be noted that by pushing the valve member 40 inwardly a short distance, the contents from the tube will be dispensed. In Figures 7 to 11 inclusive, I have shown the containers as arranged in series, that is, where more than one container is used so that various commodities may be dispensed.

I provide a bracket or base D having upstanding lugs 50 for permitting the base D to be anchored or mounted upon a wall or the like. The base D is provided with a pair of sockets 52 for receiving a pair of containers 54. The containers 54 as I have here illustrated them, are provided with wedge shaped lugs 56 adapted to coact with similar wedge shaped grooves 58 formed in the base D whereby a quarter turn or less of the containers 54 after they are placed upon the base C, will cause them to be securely held in position.

The air tight connection is formed between the base and the containers 54 by washers or the like 16. Within the base D in a downwardly extending portion 60 thereof, I provide a cylinder 62 having a piston 64 therein. The piston 64 is connected to a stem 66 having a finger engaging piece 68 thereon.

The base D is hollow as at 70 and has communication with the cylinder 62 through a small passageway 72 and valve element 74. The inner end of the stem 66 is pointed as at 76 and is adapted to seat itself within a portion of the valve and serves as a closure for the valve.

The cylinder 62 is in communication with atmosphere through the small passages 78. The operation of the pump element which is built in the base C, forces air through the valve 74 and into the hollow portion 70 of the base D and fills each of the containers 54 with air. Collapsible tubes containing any suitable semi-hard substance, are mounted upon the base C in substantially the same manner as has heretofore been described in connection with the collapsible tube 26 and its connection with the base A.

Practical operation.

In the practical use of my dispenser it is necessary to first remove the container 10 or the containers 54 and place a collapsible tube with its discharge end down upon the bases A or D and connect them to the bases A or D. The containers 10 or 54 are then mounted upon their respective bases so that an air tight connection is had between such containers and the bases.

The containers are then filled with air in any suitable manner so that the tubes within the containers tend to collapse due to the outside pressure thereon thus tending to expel the contents from the casing.

Manual operation of the valve member or nozzle B will permit the contents to be discharged. It will be noted that the containers may be mounted in single units or may be arranged in multiple units.

Various commodities such as shaving soap, tooth paste, vanishing cream and the like may be dispensed from collapsible tubes

without at any time rolling or manually engaging the collapsible tubes as is ordinarily the case.

Some changes may be made in the construction and arrangement of the parts of my device without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claims, any modified forms of structure or use of mechanical equivalents, which may be reasonably included within their scope.

I claim as my invention:

1. A dispenser of the character described comprising an air tight container, a collapsible tube containing semi-hard substances mounted in said container, said container having a passageway therein one end of which is open to atmosphere and the other end of which is in communication with the discharge end of said tube, means for filling said container with compressed air whereby a tendency to collapse said tube is constantly maintained within the container, a portion of the tube serving to cut off communication between the interior of said container and said passageway for making said container an air storage tank and a valve in said passageway normally held closed by the pressure of said substances thereagainst.

2. In a dispenser, a collapsible tube having contents to be discharged therefrom, a container surrounding said tube and spaced therefrom, means for constantly exerting a pressure upon said tube within said container for normally tending to collapse said tube and discharge the contents therefrom, and means for withholding the discharge of the contents against such normal tendency, said last means when operated allowing the contents to be discharged in a charge and thereafter closed by the contents.

3. A dispenser of the character described comprising an air tight container, a collapsible tube containing semi-hard substance mounted in said container, said container having a passageway therein one end of which is opened to atmosphere and the other end of which is in communication with the discharge end of said collapsible tube, means for filling said container with compressed air whereby a tendency to discharge the contents of the collapsible tube is maintained within the container, a portion of the collapsible tube serving to cut off communication between the interior of the container and the passageway for making said container an air tight storage tank and a valve in said passageway normally held closed by the pressure of said substance thereagainst.

4. In a dispenser, a collapsible tube having contents to be discharged therefrom, a container surrounding said collapsible tube, means for constantly exerting a pressure upon said collapsible tube within said container for normally tending to discharge the contents therefrom and means for withholding the discharge of the contents against such normal tendency, said last means when operated allowing the contents to be discharged in a charge and thereafter closed by the contents.

Des Moines, Iowa, September 20, 1927.

HARRY J. COCKS.