

Oct. 28, 1924.

1,513,480

J. F. BRADLEY

PUMP

Filed Oct. 18, 1922

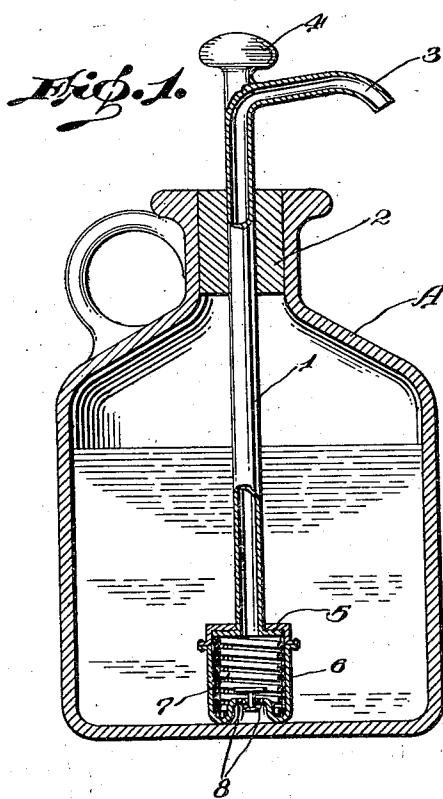
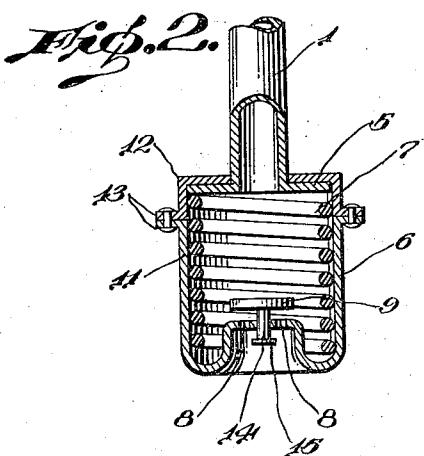
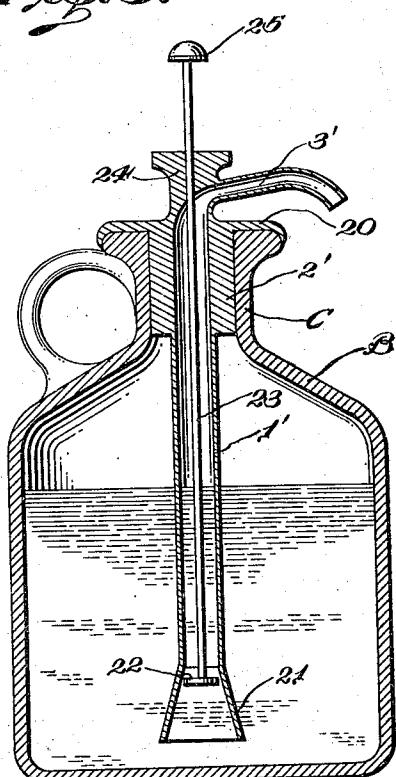


Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES F. BRADLEY, OF LOMBARD, ILLINOIS.

PUMP.

Application filed October 18, 1922. Serial No. 595,831.

To all whom it may concern:

Be it known that I, JAMES F. BRADLEY, a citizen of the United States, residing at Lombard, in the county of Du Page and 5 State of Illinois, have invented new and useful Improvements in Pumps, of which the following is a specification.

This invention relates to pumps particularly designed for use in connection with 10 syrup or pharmaceutical jugs or bottles, and an object of the invention is to provide a pump structure designed for facilitating the dispensing of the contents of the jugs or bottles, which pump structure is small enough 15 to be inserted through the neck of the jug.

Considerable difficulty is experienced in dispensing the contents of syrup or pharmaceutical jugs or bottles, and usually the contents or a portion of the contents of the 20 jugs or bottles are poured into a second receptacle and dispensed from it.

It is an object of the present invention to provide a pump structure which may be readily attached to or detached from said 25 jugs or bottles, and will permit accurate dispensing of the contents of the jug directly therefrom as needed.

Other objects of the invention will appear 30 in the following detailed description taken in connection with the accompanying drawing wherein:—

Fig. 1 is a vertical section through a jug showing one of the improved pumps applied thereto, and showing part of the pump in 35 section.

Fig. 2 is an enlarged view of the inner end of the pump.

Fig. 3 is a vertical section through a modified form of the pump showing it applied.

Referring more particularly to the drawings, the improved pump structure comprises 40 a feeding tube 1 which projects centrally through a cork or stopper 2 adapted to fit snugly in the mouth of the jug A. The 45 feeding tube 1 has a spout 3 which is hollow and communicates with the interior of the tube 1. A handle or knob 4 is formed integrally on the tube 1 and has its axis in direct alignment with the axis of the tube 1, as 50 clearly shown in Fig. 1 of the drawings. An annular flange or piston 5 is formed upon the lower end of the tube 1 and fits within the cylinder 6. A spiral spring 7 is placed within the cylinder 6 and urges the 55 piston 5 upwardly. The bottom of the cylinder is cupped upwardly and is provided

with a plurality of inlet openings 8 to permit the syrup or liquid contents of the jug A to pass into the cylinder. A valve 9 is provided for closing the openings 8 upon downward pressure of the piston 5 within the cylinder to prevent the contents of the cylinder from returning into the jug through the openings 8. Thus when the tube 1 and piston 5 are pressed downwardly by pressure applied to the knob 4 the contents of the cylinder 6 will be forced upwardly through the tube 1 and outwardly through the spout 3 to permit the dispensing of the contents of the jug.

For convenience of assembly the cylinder 6 is made of sections 11 and 12 which are connected by means of annular flanges 13. The valve stem 14 extends slidably through the bottom of the cylinder 6 and has a relatively small head 15 upon its lower end to prevent displacement of the valve.

In Fig. 3 of the drawings, a modified form of the invention is shown in which the tube 1' is stationary and is formed integrally with a stopper 2' which stopper is adapted to fit snugly within the mouth of the jug B and has a valve flange 20 formed upon its outer end which covers the mouth or open end of the neck C of the jug B.

The tube 1' has its lower end flared as shown at 21, which flared end opens out into the jug B to permit the liquid within the jug to enter the tube through which it is pumped upwardly and outwardly through the spout 3' by the piston 22, which is carried by the lower end of the piston rod 23. The piston rod 23 extends upwardly through the tube and through the bearing projection 24 formed upon the flange 20 and it has a knob 25 upon its upper end to facilitate its operation.

From the foregoing description taken in connection with the accompanying drawings it will be apparent that either the preferred or the modified pump structure may be inserted through the neck or mouth of the ordinary type of gallon jugs or bottles used in the marketing of syrups or other druggist supplies, and that the contents of the jugs may be dispensed directly therefrom, through the medium of the pump structures, by reciprocation of the piston.

It is, of course, to be understood that the invention may be constructed in other manners and the parts associated in different relations and, therefore, I do not desire to

be limited in any manner except as set forth in the claim hereunto appended.

Having thus described my invention what I claim is:—

5 In a pump structure, a stopper adapted to fit within the mouth of a jug or bottle, a pump carried by said stopper and having its maximum diameter smaller than the maximum diameter of the stopper, said pump including a dispensing tube carried by the stopper, a spout communicating with the tube, a sectional cylinder at the lower end of the tube, said cylinder having an upwardly cupped bottom portion with a central open-

ing and further provided with a plurality 15 of perforations around said opening, a piston on said tube and movable within said cylinder for forcing liquid outwardly through the tube and spout, a spring in said cylinder, a valve member having a stem 20 movable through the central opening of the bottom portion for controlling the inlet and outlet of liquid into the cylinder, and a relatively small head upon the lower end of the stem to prevent displacement of the 25 valve.

In testimony whereof I affix my signature.

JAMES F. BRADLEY.