H. L. SNEDIKER.

SYRUP PUMP FOR SODA FOUNTAINS.

APPLICATION FILED JULY 13, 1908.

940,991. Patented Nov. 23, 1909.

Fig I.

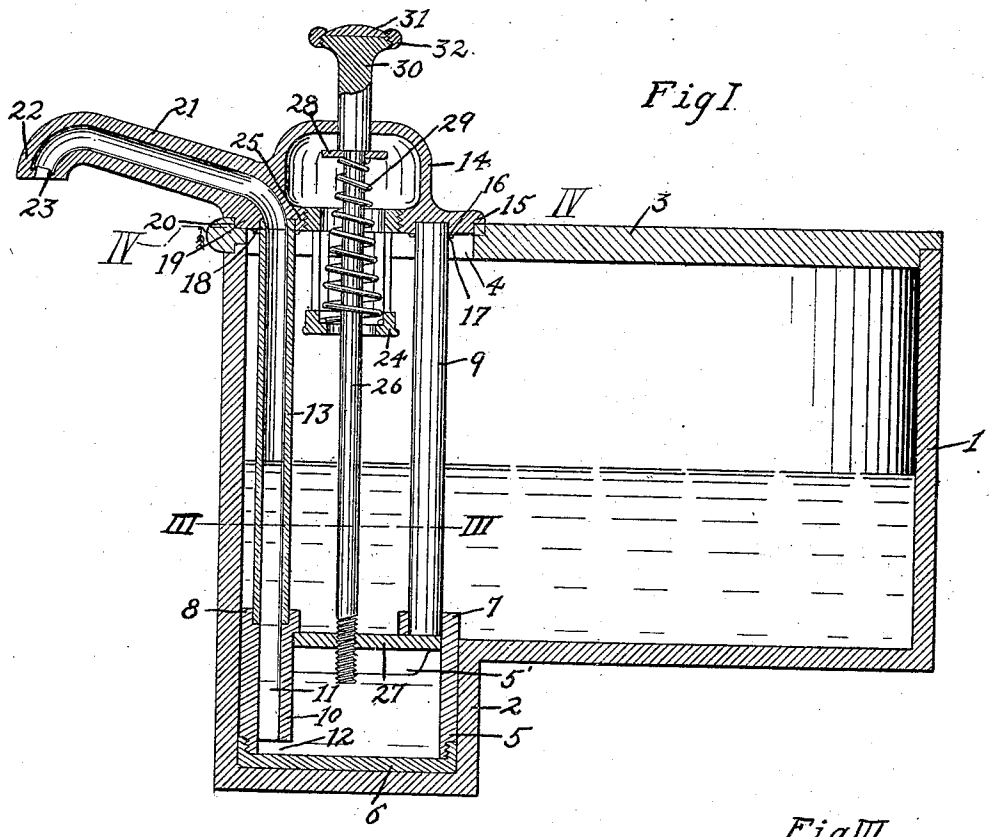



Fig II

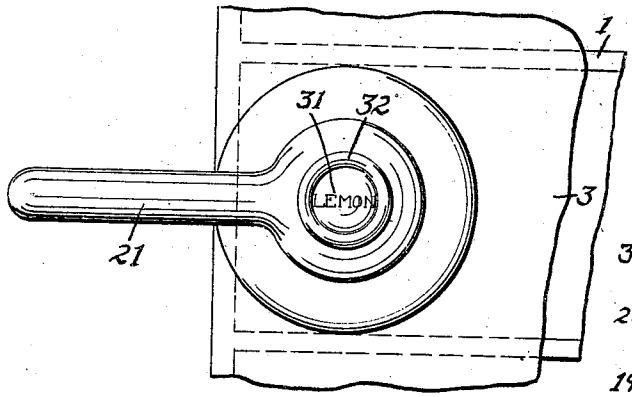



Fig III

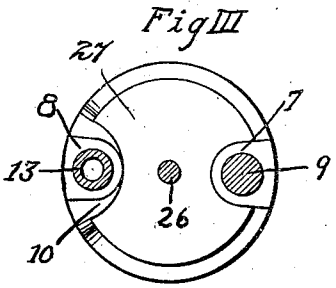



Fig IV

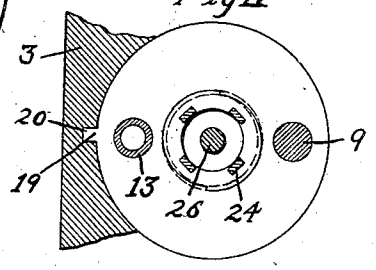
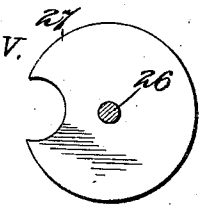



Fig. V.

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# UNITED STATES PATENT OFFICE.

HARRY L. SNEDIKER, OF KANSAS CITY, MISSOURI.

## SYRUP-PUMP FOR SODA-FOUNTAINS.

940,991. Specification of Letters Patent. Patented Nov. 23, 1909.

Application filed July 13, 1908. Serial No. 443,210.

*To all whom it may concern:*

Be it known that I, HARRY L. SNEDIKER, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Syrup-Pumps for Soda-Fountains; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to a syrup pump for soda fountains, and has for its object to provide a device of that class whereby a desired and definite quantity of syrup may be pumped from a fountain tank at each operation of a pump plunger.

A further object of my invention is to provide a pump mechanism, the component parts of which may be separated to facilitate cleansing.

A further object is to provide an improved plunger cup, and means whereby the stroke of the plunger may be varied to vary the quantity of syrup discharged at each manipulation of the pump.

A further object is to provide a nozzle by which the usual dripping of syrup after each operation of the pump may be obviated.

A further object is to provide other improved details of structure which will presently be fully described and pointed out in the claims, reference being had to the accompanying drawings, in which:—

Figure I is a longitudinal vertical section of an ordinary syrup jar having a depressed pump chamber and containing a pump constructed according to my invention. Fig. II is a top plan view of the same. Fig. III is a horizontal section taken on line III—III, Fig. I. Fig. IV is a horizontal section taken on the line IV—IV, Fig. I, showing the pump cap anchoring parts. Fig. V is a plan view of the plunger; the plunger rod being shown in section.

Referring more in detail to the parts:—1 designates a syrup jar, comprising a bottom pump chamber 2 and cover 3, the latter having an opening 4 located over the chamber 2 through which the pump is inserted into the jar.

The pump structure comprises a plunger cup 5, that is adapted to fit snugly within the chamber 2 in the syrup jar, and has the recesses 5′ in its upper side edges through which syrup is admitted to the cup, said cup being preferably provided with a bottom cap 6 that is threaded onto the cup body to form a closed plunger chamber that will effectually confine the syrup during the pumping process but which may be easily removed to facilitate cleansing of the cup and pump parts. Cup 5 is open at the top and provided at the back and front, with the inwardly projecting flanges 7—8, the former of which is only of sufficient thickness to support a standard 9, while the latter is extended by a cylinder member 10 to within a short distance of the bottom of the cup, the flange 8 and cylinder member being preferably integral and having a continuous channel 11 that communicates with the cup chamber through a conduit 12 beneath the member 10, and through which the syrup from the cup is forced upon the descent of the plunger, as will presently be set forth. Fitting within a seat in the flange 8 is a tube 13 which extends upwardly to the height of the standard 9 and has a channel registering with the flange 8 and cylinder channel 11.

14 designates the pump cap which is supported on the cover 3 by the flange 15 and has a reduced portion 16 of its body projected into the cover opening and has the sockets 17—18, within which the respective upper ends of the standard 9 and tube 13 project, such body portion having a lip 19 which projects forwardly therefrom and is adapted to seat in a recess 20 in the cover 3, in order to anchor the pump cap against lateral movement.

21 designates a nozzle which is preferably formed integral with the cap body and extends outwardly therewith at an upward incline and has a channel extending therethrough, and registering with the channel of tube 13, the tip 22 of such nozzle having an interior flange 23 projecting into the nozzle channel, to obviate dripping of the nozzle after an operation of the pump.

The interior of cap 14 is chambered and provided with a depending barrel 24, that is preferably of skeleton formation and has its upper end threaded into a suitable flange 25 of said cap.

26 designates a plunger rod which pro-

jects through perforations in the pump cap and barrel, and extends downwardly into the cup 5, the lower end of such rod having an adjustable threaded connection with the plunger 27, which fits within the cup and is adapted for vertical movement therein. Plunger 27 is slotted at its forward edge to embrace the cylinder member 10 by which it is guided in its vertical travel beneath the flanges 7—8 and the bottom of the cup, and is adapted for engagement with the under faces of said flanges to prevent its displacement on the up stroke of the rod.

28 designates a collar on rod 26, and 29 a coil spring which surrounds said rod with its respective ends in engagement with the bottom of barrel 24 and the under side of collar 28, the latter being adapted to normally tension said rod upwardly and retain the plunger 27 in its engagement with the under side of flanges 7 and 8. On the portion of rod 26 which projects above the pump cap is a knob 30 within which a button 31, bearing suitable wording, may be located, said knob having a threaded rim flange 32 for retaining the button in its seat.

Inasmuch as syrup tanks, or jars, similar to that shown in the drawings are commonly used, no special equipment is necessary in applying the pump to different styles of fountains; the only change necessary to be made for the installation of the present pump being the cutting of the recess 20 in the cover 3 for the lip 19.

Presuming the jar to be provided with the cup chamber 2 and the cover with opening 4 and recess 20, the pump, which is assembled as described, is inserted through the cover opening until the cup 5 seats in chamber 2 and the cap 14 seats in opening 4, when the lip 19 will fit within the recess 20 and prevent lateral movement of the parts.

When the pump is located as described, syrup will flow through the intake recesses in the upper side edges of the cup and fill the latter, so that a measure of syrup is constantly in condition for discharge.

When a measure of syrup is desired, the plunger rod 26 is depressed against the tension of the spring 29, by pressing on the knob 30, thereby forcing the plunger 27 downwardly in the cup 5. During the first part of its descent, the plunger 27 forces the syrup out through the recess 5′ into the jar, but as the plunger passes such recess its close fit in the cup moves the syrup up through the cylinder chamber 10, and tube 13 to the nozzle 21 from which it is delivered to a receptacle that may be held therebeneath. After the syrup has been discharged, the pressure on the knob is released and the spring 29 returns the rod and plunger to their original position, a suction being created in the tube and nozzle as the plunger moves upwardly in the cup which tends to draw the syrup which has not been forced out through the nozzle mouth back into the nozzle channel, and the flange 23 in the nozzle tip preventing the syrup from dripping out through the nozzle mouth.

It can readily be seen that with the plunger located at a definite point on the plunger rod, the same quantity of syrup will be forced through the nozzle at each full stroke of the plunger and that when the rod is turned it will move downwardly or upwardly, against or with the tension of spring 29 to lengthen or shorten the portion below the plunger. In this manner the measure of discharge may be regulated because of the variance in the distance the plunger may travel before the end of the rod strikes the bottom of the cup; an extended travel of the rod increasing the measure of syrup and a limited travel diminishing the measure.

By constructing the pump in a number of pieces that may be separated from each other, the pump may be "knocked down" to render the parts convenient for cleaning and thereby afford a sanitary structure.

Having thus described my invention, what I claim as new therein and desire to secure by Letters Patent is:—

1. A syrup pump comprising a plunger cup formed with recessed edges, with inwardly projecting back and front flanges and with a cylindrical member beneath the front flange leaving a conduit therebeneath, and having a removable cap for closing the bottom of the plunger cup, means for conducting the fluid from the cylindrical member, and a plunger formed with a slot at its front edge receiving the cylinder chamber and having a rod and adapted to be removed through the bottom of the plunger cup.

2. A syrup pump comprising a plunger cup formed with inwardly projecting back and front flanges, and with a cylinder member beneath the front flange, a plunger formed with a slot at its front edge receiving the cylinder member, and having a rod, a pump cap through which the plunger rod passes, having back and front sockets, and a nozzle, a standard fitting in the back flange and back socket and a tube fitted in the front flange and front socket.

3. A syrup pump comprising a plunger cup formed with inwardly projecting back and front flanges, and with a cylinder member beneath the front flange, a plunger formed with a slot at its front edge receiving the cylinder member, and having a rod, a pump cap through which the plunger rod passes, formed with a chamber and having back and front sockets, a nozzle, and an interior flange, a depending barrel connected with said interior flange, a collar mounted on the plunger rod within the chamber of the cap, a spring surrounding the plunger rod between the bottom of the barrel and the

collar, a standard fitting in the back flange and back socket and a tube fitted in the front flange and front socket.

4. A syrup pump for soda fountains comprising a plunger cup, a cylinder member integral with and projecting from the cup side into the plunger chamber and having a slot at the bottom through which liquid may pass from the plunger chamber to the interior of said cylinder member, a plunger adapted for travel in said cup, and cut away to fit over the cylinder member, a pump cap and nozzle, a tube connected with said pump cap and cylinder member and forming communication between the cylinder and nozzle, a standard connecting said cap and plunger cup, and a rod adjustably connected with said plunger and adapted for actuation from the exterior of the pump cap.

In testimony whereof I affix my signature in presence of two witnesses.

HARRY L. SNEDIKER.

Witnesses:
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WALTER ALLEN.