Jan. 6, 1925. 1,522,370

T. JENNEY

SIRUP DISPENSING APPARATUS

Filed July 7, 1923 2 Sheets-Sheet 1

Fig. 1.

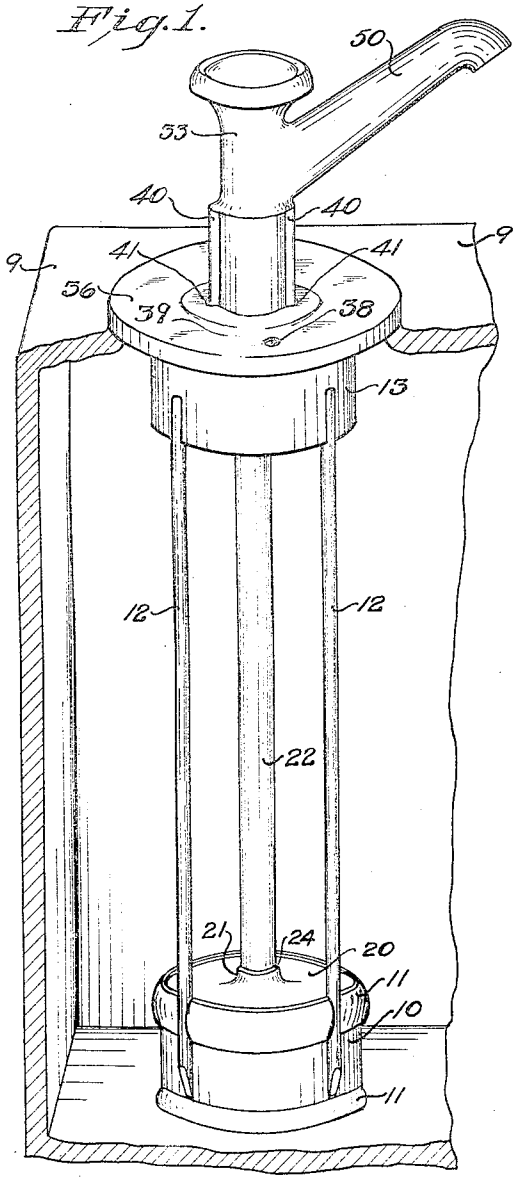
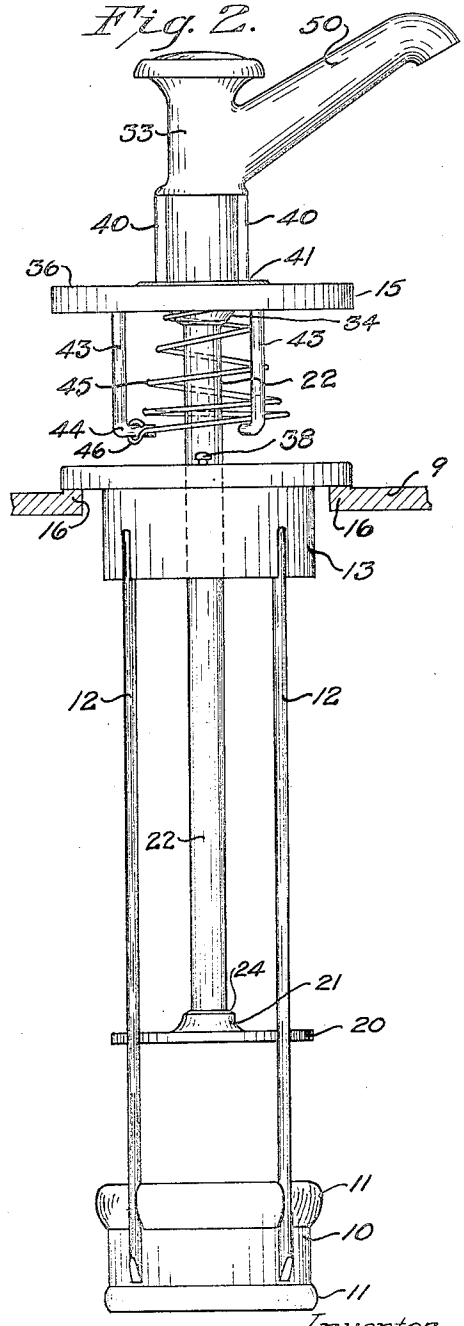


Fig. 2.



Inventor

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by

Attorney

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Fig. 3.

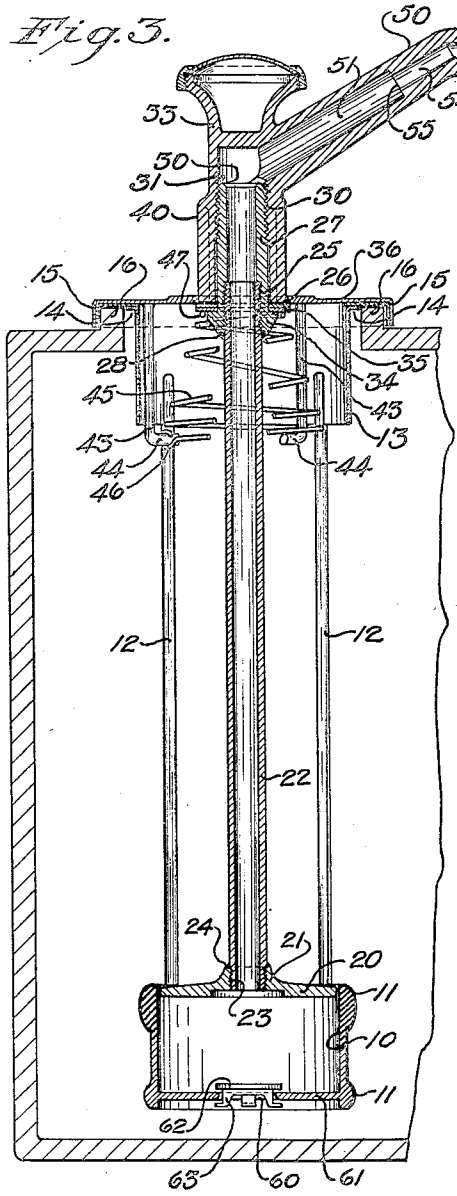


Fig. 4.

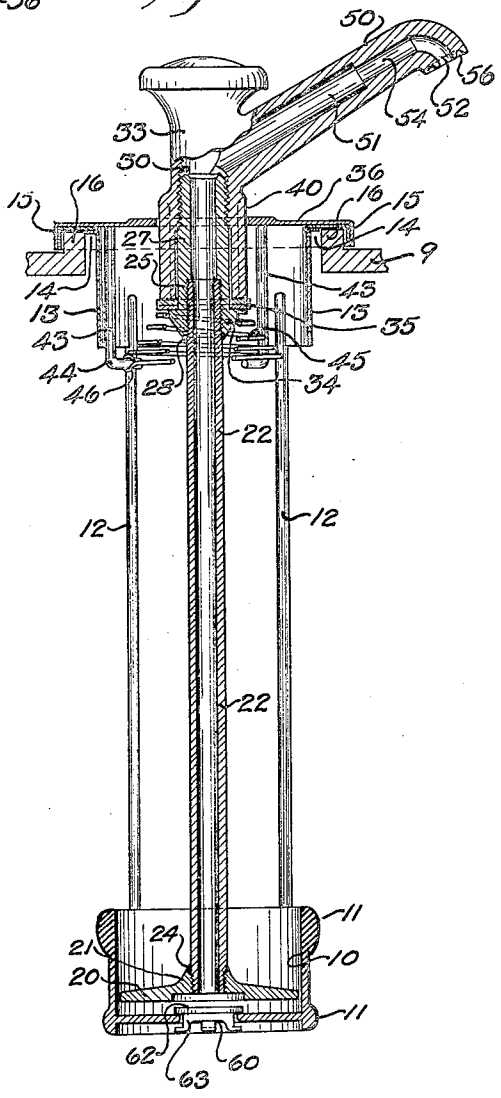
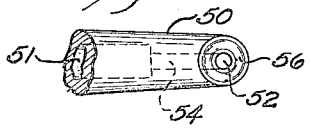


Fig. 5.



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by

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UNITED STATES PATENT OFFICE.

THACHER JENNEY, OF LEXINGTON, MASSACHUSETTS, ASSIGNOR TO AMERICAN SODA FOUNTAIN COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

SIRUP-DISPENSING APPARATUS.

Application filed July 7, 1923. Serial No. 650,034.

To all whom it may concern:

Be it known that I, THACHER JENNEY, a citizen of the United States, residing at Lexington, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Sirup-Dispensing Apparatus, of which the following is a specification.

This invention relates to dispensing apparatus and particularly to sirup-dispensing apparatus employed at soda fountains and has for its object to improve the construction and operation of such apparatus.

Fig. 1 is a perspective view of the sirup-dispensing apparatus or pump embodying the invention.

Fig. 2 is an elevation of Fig. 1, certain of the parts being shown in detached position to illustrate the construction more clearly.

Fig. 3 is a sectional elevation of the pump.

Fig. 4 is a view similar to Fig. 3, but with the pump piston shown in depressed position.

Fig. 5 is an end view of the sirup-nozzle and illustrating more particularly the drip groove therein.

As here shown, the sirup-dispensing apparatus or sirup pump embodying the invention is adapted to be disposed within a sirup receptacle 9 and pump the sirup therefrom. The apparatus may comprise a pump cylinder 10 which is provided with annular reinforcing ribs 11 at the upper and lower portions thereof. Cylinder supporting rods 12, which may also serve as guide rods for the piston when the piston is withdrawn from the cylinder for cleaning or for other purposes, are secured to said cylinder and extend upwardly thereabove and are or may be secured to an upper supporting ring 13. Said ring may be formed or provided with a cover-support 14 which is arranged to extend outwardly beyond said ring, and said cover-support may terminate in a depending annular flange 15, which flange may fit loosely over a projection 16 of the sirup receptacle 9 whereby to locate the dispensing apparatus therein.

A pump piston 20 is adapted to operate within said cylinder 10 and is formed with a central boss 21 which has an internally screw-threaded passage. A tubular piston rod 22 is formed with the externally screw-threaded end portion 23, which end portion is received in the screw-threaded passage in the piston 10, whereby rigidly to unite said piston and piston rod. Preferably the piston and piston rod are additionally rigidly united rigidly united by a suitable binding material as solder 24, which is run in between the piston rod and the top of the boss 21 of the piston.

Said piston rod also serves as a conduit through which the sirup is adapted to be forced from the interior of the cylinder when the piston rod is depressed.

The upper end 25 of said piston rod is externally screw-threaded and is received within an internally screw-threaded passage 26 of a sleeve 27, and may be additionally fixed to said sleeve by a suitable binding material as solder 28, which may be run in about said rod and sleeve. Said sleeve is formed with an externally screw-threaded upper end 30 which is adjustably screw-threaded into the passage 31 of the pump handle 33. Said sleeve is formed with a lower and outwardly extended annular flange 34 and washers 35 may be disposed on said sleeve between said flange and the lower end of said pump handle 33. The number of washers may be varied whereby to vary the length of stroke of the pump piston and thereby vary the quantity of sirup delivered at each stroke of the pump piston. A cover 36 is disposed upon and secured detachably to the cover-support 14 of the cylinder support by suitable means as the locking apertures 38 in the cover 36 and locking projections 39 extended above said cover 14 of the cylinder support. Said cover 36 is formed with an aperture through which said handle 33 is slidable and said washers 35 are adapted to extend beneath said cover and under the aperture therein and bear against said cover, whereby to limit the upward movement of the piston, as shown in Fig. 3. Said handle is formed with a plurality of vertically extended guide ribs 40 which are adapted to enter corresponding notches 41 formed in the cover 36, whereby to restrain said handle from rotation as the pump is operated. Said cover 36 is provided with a plurality of rods 43 which depend below the cover and terminate in inwardly-reflexed end portions 44 which are adapted to form spring seats. A conical spring 45 is adapted to be received within said rods and supported on the end por-

tions thereof. The bottom convolution of said spring may terminate in or be formed with an eye 46 which is adapted to be disposed over the reflexed end of one of said rods whereby to secure said spring removably in position. The smaller and upper end of said spring may bear against a projection of the pump piston, as the washers 35, whereby to maintain the pump piston yieldingly in raised position. With the arrangement above set forth said spring is exposed and may be readily removed for cleaning or for other purposes.

Said pump handle is formed with a nozzle 50 which has a passage 51 therein arranged in communication with the passage in the pump handle and thereby with the interior of the pump cylinder. The end portion 52 of said nozzle is downwardly directed whereby to direct the sirup into a convenient receptacle.

Said nozzle passage 51 is in communication with a restricted passage 54 formed in the end portion 20 of the nozzle and an annular ledge or dam 55 is formed at the junction of said passages. Said dam and restricted passage is found to assist materially in preventing the "after" discharge or slight spurt of sirup from the nozzle which sometimes occurs after the pump handle is released from its depressed position.

After the pump has been operated a drop of sirup may collect at the end of the nozzle and, to prevent the drop from falling off the nozzle, a groove 56 is formed in the end face of the nozzle and preferably concentric with the discharge passage in said nozzle. Said groove acts to collect and retain the drop which, otherwise, might fall and soil the surface with which it comes in contact.

Sirup is introduced into the pump cylinder 10 through a valve aperture 60 in the bottom wall 61 of the cylinder and a suction operated check valve 62 is disposed in said cylinder normally to close said aperture. Said valve may be formed with projections 63 which extend through said aperture and are reflexed outwardly beneath the cylinder wall whereby to retain the valve operably in position and limit the movement thereof.

The pump cylinder is adapted to be submerged in sirup in said sirup receptacle 10. When the pump piston is depressed the sirup in the cylinder is caused to flow upwardly through the piston rod and discharge from the nozzle; and when the piston is raised sirup is caused to flow into the cylinder through the valve therein, which valve opens automatically to admit the sirup into the cylinder.

The arrangement of said valve in the bottom of the cylinder is found to assist materially in preventing the spurting of sirup from the nozzle as the piston is raised by its spring.

I claim:

1. Sirup dispensing apparatus comprising a cylinder open at the top to permit the free removal of the piston and having a bottom wall formed with an aperture therethrough, a suction valve covering said aperture, a piston operable within said cylinder, and a tubular piston rod secured rigidly at its lower end to said piston and communicating with the interior of said cylinder, said piston rod having a nozzle at its upper end in communication with the interior of said piston rod.

2. Sirup dispensing apparatus comprising a cylinder open at the top to permit the free removal of the piston and having a bottom wall formed with an aperture therethrough, a suction valve covering said aperture, a piston operable within said cylinder and having a screw-threaded passage therethrough, a tubular piston rod having an externally screw-threaded lower end received in said screw threaded piston passage, the interior of said piston rod having communication with the interior of said cylinder, and a handle member having a nozzle and an internally screw-threaded passage therein, said piston rod having an externally screw-threaded upper end received in said screw-threaded passage in said handle.

3. Sirup dispensing apparatus comprising the combination of a pump cylinder having a bottom wall but no top wall and a suction valve in said wall, a piston disposed within said cylinder having a tubular piston rod arranged in communication with the interior of said cylinder, and a nozzle carried by the upper end of said piston rod, said nozzle having a relatively large passage in communication with the interior of said piston rod and a relatively small passage extended from said large passage to the discharge end of the nozzle, and a dam at the junction of said passages.

4. Sirup dispensing apparatus comprising the combination of a pump cylinder having a bottom wall but no top wall and a suction valve in said wall, a piston disposed within said cylinder having a tubular piston rod arranged in communication with the interior of said cylinder, and a nozzle carried by the upper end of said piston rod, said nozzle having a relatively large passage in communication with the interior of said piston rod and a relatively small passage extended from said large passage to the discharge end of the nozzle, and a dam at the junction of said passages, and an annular groove in the end of the nozzle surrounding the open end of said small nozzle passage.

In testimony whereof, I have signed my name to this specification.

THACHER JENNEY.