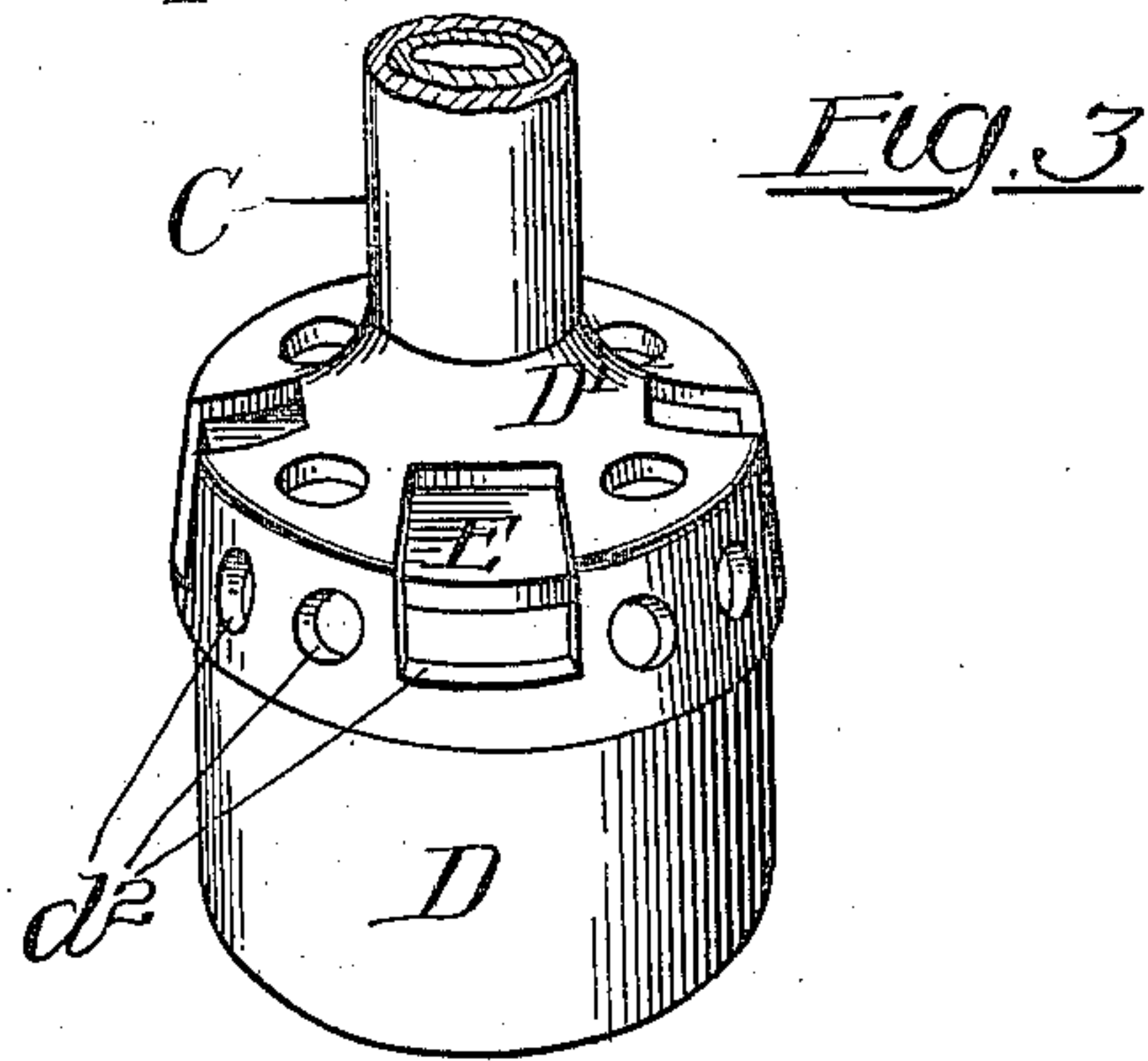
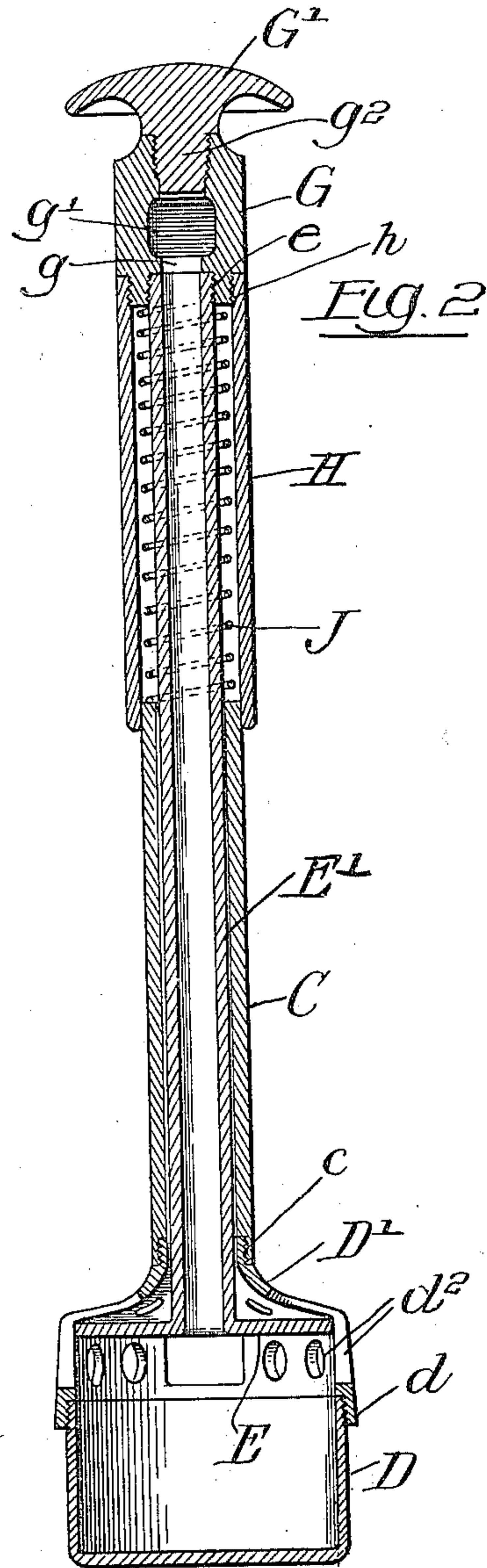
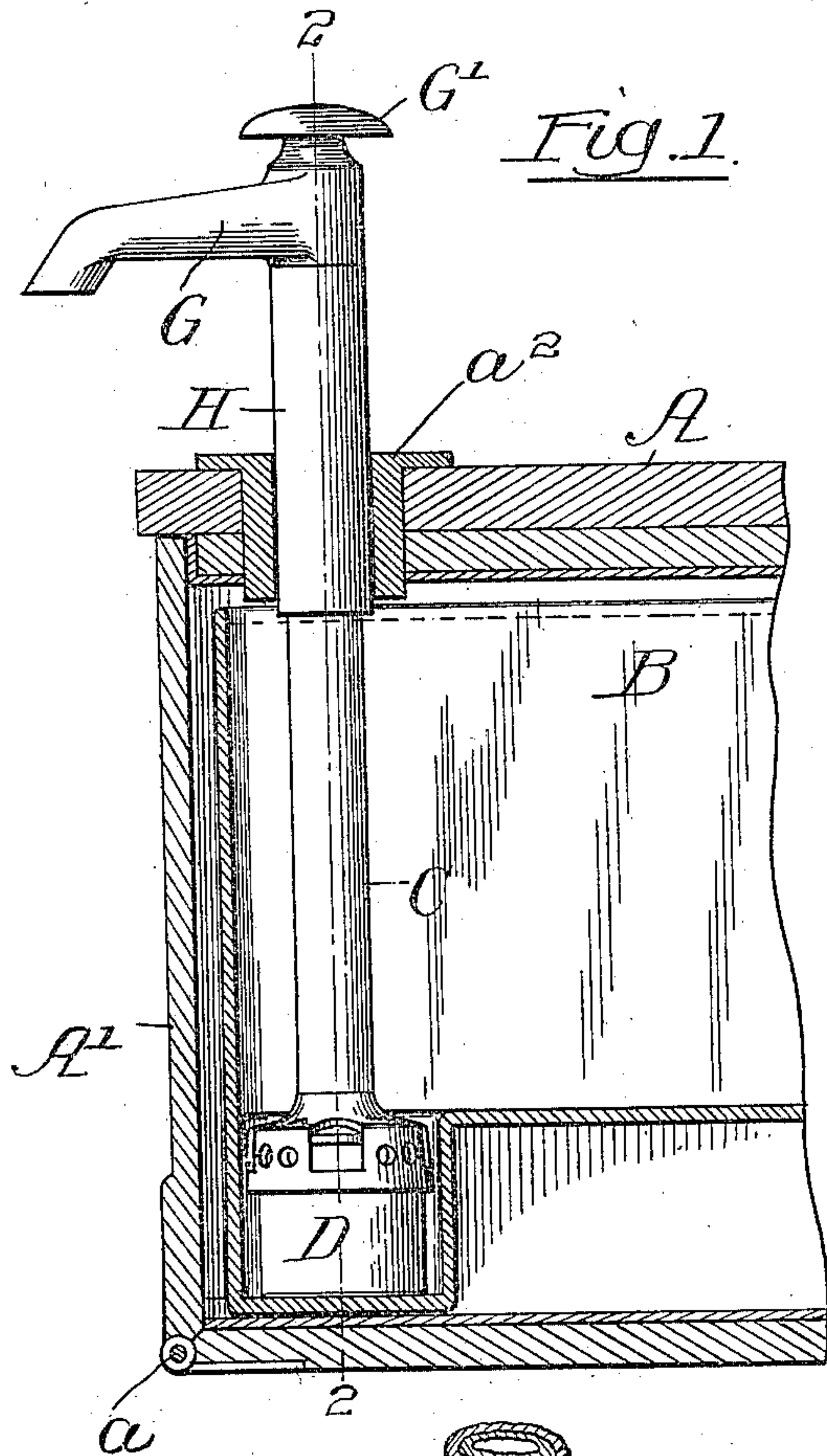


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DISPENSING MECHANISM FOR SYRUPS.
APPLICATION FILED OCT. 30, 1905.

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Patented July 5, 1910.



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UNITED STATES PATENT OFFICE.

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DISPENSING MECHANISM FOR SYRUPS.

963,268.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LOUIS A. BECKER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dispensing Mechanism for Syrups, of which I do declare the following to be a full, clear, and exact description, reference being had to the drawing forming part of this specification.

My present invention has relation more particularly to the improvement of dispensing apparatus such as is used for withdrawing from the syrup jars of soda water fountains a measured quantity of syrup and the object of the invention is to provide a simple, cheap, effective and durable construction of dispensing apparatus.

To this end the invention consists in the features of improvement hereinafter described, illustrated in the accompanying drawing and particularly pointed out in the claims at the end of this specification.

Figure 1 is a view in vertical section through a portion of a soda water fountain having my invention applied thereto, the mechanism embodying my invention being shown in elevation. Fig. 2 is a view in central vertical section through my improved dispensing apparatus, the section being taken on line 2—2 of Fig. 1. Fig. 3 is a view in perspective showing upon an enlarged scale the lower portion of my improved apparatus.

In the accompanying drawing A designates that portion of the soda water fountain adapted to receive the syrup containing jars,—a portion of one of said jars being shown and designated as B in the drawing. Preferably the jar B is provided with a pocket or depression *b* in its bottom to better admit the syrup to the measuring cup of my improved apparatus. In the drawing the receptacle A is shown as provided with a downwardly folding door A' that is hinged at *a*, this being one simple and familiar form of receptacle.

Through an opening in the top of the chamber A and above the syrup jar B extends the upper portion of my improved dispensing apparatus, and as shown, a plug or bushing *a*² may be inserted in the opening at the top of the chamber A to better guide the reciprocating movement of the dispensing apparatus.

My improved apparatus comprises a tube C having a measuring cup D connected at its lower end, and this measuring cup is adapted to receive a piston E that will reciprocate within the cup. A stem E' of the piston E is tubular and leads upward from a central opening in the piston and through the tube C to the lower end of which is connected the cap or cover D' of the cup D. The upper end of the hollow piston stem E' is connected to the head portion of a discharge spout G through which the syrup will be discharged into drinking glasses or like receptacles. As shown, an outer tube H extends downwardly from the discharge spout G at its lower end overlapping in manner free to move, the upper end of the tube C. Within the outer tube H and encircling the upper portion of the hollow piston stem E', is placed a coiled spring J, the upper end of which bears against the lower portion of the head of the discharge spout G, while its lower end bears against the upper end of the tube C.

In the preferred form of my invention the cap or cover D' of the cup D, is formed with an interiorly threaded flange *d* adapted to fit around and engage the correspondingly threaded upper portion of the cup E, so that the cup may be detachably connected to its cap. By this means, cups of different sizes may be employed according to the demands of the customer and the character of syrup or other fluid that is dispensed. As shown, the cap or cover D' of the cup D is substantially the same in interior diameter as the cup D, so that the piston E may move freely from the cap or cover D' into the cup D and across the threaded joint that unites the two. The cap or cover D' is formed more or less open to admit the syrup into the cup D beneath the piston E, and this may be accomplished by employing any desired number of holes or openings *d*² in the cap or cover D'. Preferably, the cap or cover D' is attached to the tube C by a screw-threaded joint *c* that enables these parts to be conveniently formed and to be readily taken apart for cleaning or other purposes.

By preference, the upper end of the hollow stem E' is attached to the head of the discharge spout G by a screw-threaded joint *e* and by preference also, the outer tube H is connected to the head of the discharge spout G by a similar threaded joint *h*. A

port g in the head of the discharge spout G connects with the main channel g' of said spout. As shown, the discharge spout G is provided with a pressure plate G' whereby the attendant may conveniently depress the discharge spout G , as will presently appear, and preferably this pressure plate G' is formed with a threaded stem g^2 adapted to set within a correspondingly threaded opening in the top of the head portion of the discharge spout G .

From the foregoing description, the operation of my improved dispensing apparatus will be seen to be as follows: When the parts are in the normal position shown in the drawings, the piston E will be held by the coiled spring J in the upper portion of the cap or cover D' of the cup D , so that syrup or like liquid from the jar B may pass through the opening d^2 into the cup D . If now the discharge spout G be forced downward by the pressure of the hand of the attendant upon the pressure plate G' , the piston E will move down into the cup D and will force the liquid contained therein up through the hollow piston stem E' and through the discharge spout G into the drinking glass or like receptacle placed beneath the spout. When the attendant relieves the pressure of his hand from the discharge spout G the coiled spring J will restore the parts to the normal position shown in the drawing. It will thus be seen that each time the attendant depresses the discharge spout of the apparatus, a measured quantity of syrup or like liquid will be delivered through the discharge spout.

It should be noted that the improved dispensing device is in no way dependent upon any support at its upper end. It is only necessary that the dispensing device rest upon the bottom of the receptacle containing the liquid to be delivered. The operating-spring J serves to hold the piston within the upper end of the dispensing cup against its cap and is protected from contact with the liquid in the jar by the tube or sleeve H . The dispensing device consists of few parts which may be readily detached from one another for cleaning. By having a closed bottom to the dispensing cup D with inlet openings at its upper end above which the piston E is normally held, it is not necessary to provide valves of any sort in the device. This is quite an advantage since such valves readily deteriorate, leak and wear out.

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

1. A dispensing apparatus comprising a measuring cup having a cap detachably secured thereto, said cup having a closed bottom and an inlet opening at its upper end, a piston arranged to reciprocate within said cup and to travel below the opening in the

upper part thereof, said piston having a hollow stem, a tube rising centrally from said detachable cap, through which tube said hollow piston stem passes, a laterally extending discharge spout secured to the upper end of said hollow piston stem and having a channel communicating therewith and a coiled spring encircling said piston stem intermediate between the upper end of said tube and said discharge spout, the lower end of said spring being supported upon the top of said cap tube and arranged to normally uphold said piston above the inlet opening of said cup, substantially as described.

2. A dispensing apparatus comprising a measuring cup having a cap detachably threaded thereto, said cup having a closed bottom and inlet openings at its upper end, a tube centrally connected to the cap of said cup and extending upwardly therefrom, a piston arranged to reciprocate within said cup and having a hollow stem extending upwardly through said tube, a laterally extending spout connected to the upper end of said hollow piston stem, an outer tube connected to said spout and extending downwardly therefrom and fitting around the upper end of said first mentioned tube, and a coiled spring interposed between said piston stem and said outer tube, the ends of which respectively engage said first mentioned tube and said discharge spout, said spring normally upholding said discharge spout and piston with said piston against the cap of said cup.

3. A dispensing apparatus comprising a measuring cup, a tube connected to the top of said cup and extending upwardly therefrom, a piston arranged to reciprocate within said cup and having a hollow stem projecting upwardly through said tube, a spout connected to the upper end of said hollow piston stem, an outer tube surrounding said piston stem and overlapping the outer end of said first mentioned tube, said outer tube being connected to said spout to move therewith, a coiled spring located within said outer tube and between the upper end of said first mentioned tube and said spout, and a tubular bushing encircling said outer tube and within which said outer tube is free to slide, substantially as described.

4. A dispensing apparatus comprising a cup closed at its bottom and provided with a detachable cap perforated to eject liquid at its top and having its inner surface concentric with the inner surface of the cup, a piston arranged to reciprocate within said cap and said cup and provided with a hollow stem, a laterally projecting discharge spout fixed to the upper end of said piston stem and having a channel communicating with the upper end of said stem, a tube rising from the cap and surrounding the lower portion of said piston stem and a coiled

spring encircling said piston stem and interposed between the upper end of said cap tube and said discharge spout, said coiled spring serving to normally hold said piston within the upper part of the cap.

5 5. A dispensing apparatus comprising a tube, a measuring cup, a cap having a cylindrical, perforated flange detachably connected to said cup and detachably connected also to the lower end of said tube, a piston arranged to stand normally within said cap above the openings in the cylindrical flange thereof and arranged to reciprocate within said cup, the joint between said cup and said cap being below the normal position of said piston, a hollow stem for said piston, a discharge spout attached to the upper end of said hollow stem, and a coiled spring for holding said piston normally within said cup, substantially as described.

6. A dispensing apparatus comprising a measuring cup having a closed bottom and a flanged cap detachably threaded thereto and provided with inlet openings, a tube detachably threaded to said cap and extending upwardly therefrom, a piston arranged to reciprocate within said cup and said cap and having a hollow stem extending upwardly through said tube, a laterally extending discharge spout detachably screw threaded to the upper end of said hollow piston stem, an outer tube detachably screw threaded to said discharge spout and depending therefrom and fitting the upper end of said first mentioned tube, and a coiled spring interposed between said piston stem and said outer tube with its ends engaging said discharge spout and the upper end of said first mentioned tube, said spring normally upholding said piston within said cap and above the inlet openings thereof, substantially as described.

7. A dispensing apparatus comprising a measuring cup, a tube fixed to and extending upwardly from the top of said cup, a hollow piston stem extending upwardly through said tube and having a piston at its lower end and a discharge spout at its upper end, a spring coiled around said stem and resting on the tube fixed to said cup, said spring serving to force said stem upwardly, and an outer tube connected to shift with said stem and encircling said stem, said coiled spring and the upper end of said first mentioned tube, substantially as described.

8. A dispensing apparatus comprising a measuring cup, a tube connected to the top of said cup and extending upwardly therefrom, a piston arranged to reciprocate within said cup and having a hollow stem projecting through said tube, a spout connected to the upper end of said hollow piston stem, an outer tube extending downwardly from said discharge spout and around the upper

end of said first mentioned tube, and a coiled spring interposed between said piston stem and said outer tube and between the upper end of said first mentioned tube and said discharge spout, substantially as described.

9. A dispensing apparatus comprising a tube, a measuring cup connected to the lower end of said tube and having an opening to admit fluid to the cup, a piston mounted to reciprocate in said cup, a hollow stem in said piston screw threaded at its upper end, a discharge spout provided with a threaded opening to engage the upper threaded end of said piston stem and having a hole through its top above the upper end of said piston stem, and a removable pressure plate having a threaded portion closing the hole at the top of said discharge spout, substantially as described.

10. A dispensing apparatus comprising a measuring cup having an upwardly extending tube and having a closed bottom and an inlet opening at its top, a piston arranged to reciprocate within said cup and having a hollow stem extending upwardly through said tube, said stem having a laterally extending spout at its upper end, a spring coiled about said piston stem and supported at its lower end on the upper end of said tube and arranged to normally hold said piston in the upper part of said cup, and an outer tube connected to said spout and depending downwardly therefrom around said coiled spring.

11. A dispensing apparatus comprising a measuring cup having a closed bottom and inlet openings at its upper end, said cup also having a cap detachably screw threaded thereto and provided with a tube centrally connected at its lower end to said cap and extending upwardly therefrom, a piston arranged to reciprocate within said cup and having a hollow stem extending upwardly through said tube, said stem being provided at its upper end with a laterally extending discharge spout, a spring coiled about said piston stem and extending between the upper end of said tube and said discharge spout, and an outer tube depending from said discharge spout and extending around said spring and over the end of said first mentioned tube, said spring serving to normally uphold said piston against the cap of said cup above the inlet openings thereof, substantially as described.

12. A dispensing apparatus comprising a measuring cup, a tube extending upwardly from the top of said cup, a hollow stem extending upwardly through said tube, a laterally extending discharge spout mounted on the upper end of said stem, a spring coiled around said stem and normally forcing the same upwardly, said spout having an opening above the upper end of said hollow piston stem and a removable plug normally

closing said opening, substantially as described.

13. A dispensing apparatus comprising a vessel for containing a liquid to be dispensed, a measuring cup having a closed bottom adapted to rest upon the bottom of said vessel and having a detachable cap, a tube fixed to and extending upwardly from the top of said cap, a hollow piston stem extending upwardly through said tube and provided at its lower end with a piston, said cup being open above and below the normal position of said piston, a laterally extending discharge spout fixed to the upper end of said hollow piston stem, a tubular part extending downwardly from the inner end of said discharge spout, a button adapted to be connected to the top of the vessel and through which button said tubular part is arranged to slide and a coiled spring encircling said tubular piston stem and resting upon the upper end of said cap tube and

serving to hold the piston, its stem and discharge spout in normally raised position.

14. A dispensing apparatus comprising a measuring cup adapted to rest upon the bottom of the vessel containing the liquid to be dispensed, said cup having a closed bottom and an inlet opening at its upper end, of a piston arranged to reciprocate within said cup and having a hollow stem extending upwardly through the top of said cup and provided at its upper end with a discharge spout, and a spring for normally upholding said stem and piston with said piston above the inlet openings of said cup, said cup having a part fixed thereto for supporting said spring and a part fixed thereto for limiting the upward movement of said piston, substantially as described.

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