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J. H. FOX.

SYRUP MEASURE FOR CHARGING BEVERAGE BOTTLES.

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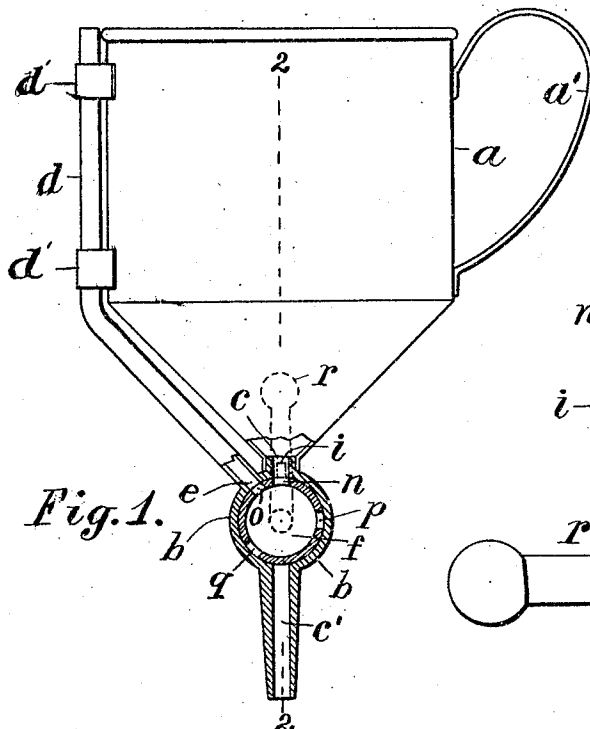


Fig. 1.

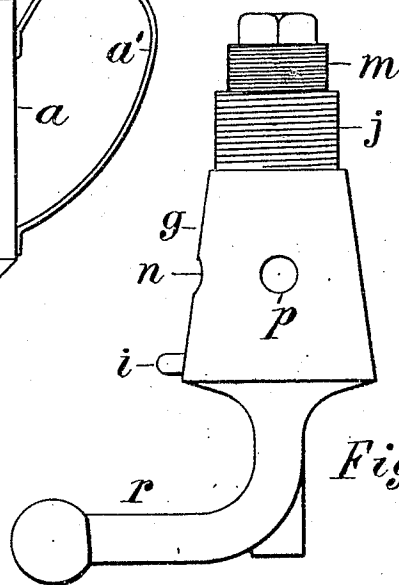


Fig. 4.

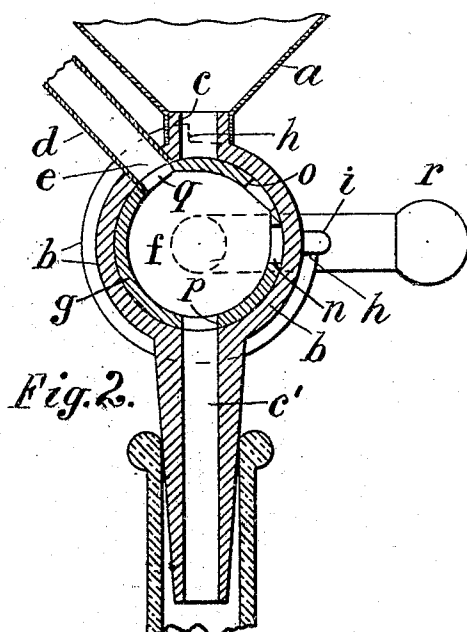


Fig. 2.

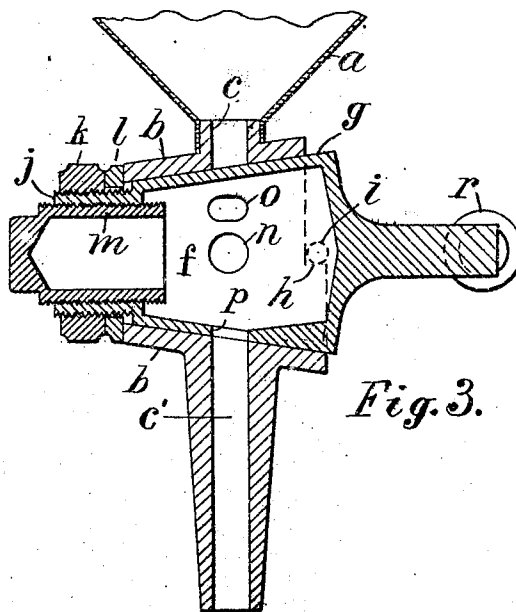


Fig. 3.

Witnesses:

L. Lee,
J. W. Kreibbaum

Inventor.

John H. Fox, per
Thomas S. Evans, Atty.

UNITED STATES PATENT OFFICE.

JOHN H. FOX, OF NEW YORK, N. Y.

SYRUP-MEASURE FOR CHARGING BEVERAGE-BOTTLES.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN H. FOX, a citizen of the United States, residing at 749 Trinity avenue, New York, borough of Bronx, and State of New York, have invented certain new and useful Improvements in Syrup-Measures for Charging Beverage-Bottles, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The object of the present invention is especially to furnish a portable syrup measure for placing charges of flavoring extracts in bottles to be filled with carbonated water to form flavored drinks. For such a purpose, the device is provided at the bottom with a hollow measuring plug and with a nozzle which can be quickly placed in the neck of a bottle, and is formed with a funnel to receive the syrup, and a handle at the side by which it may be readily manipulated. Such a syrup measure is used by placing the empty bottles in a box or convenient position and applying the nozzle successively to each one, and oscillating the measuring plug once to fill it and to empty its contents into the bottle.

The casing of the plug has a vent-tube extended from its upper side along the outside of the funnel to the top, and the plug of the cock is provided with two vent-holes for operation with such vent-tube, one of the holes operating to discharge the air from the interior of the plug when filling it, and the other hole operating to admit air to the plug when emptying it.

In the drawing, Figure 1 is an elevation of the funnel and the vent-tube with a cross section of the casing and the plug therein turned to fill the measuring chamber; Fig. 2 is a similar section of the cock on a larger scale with the plug turned to empty the chamber; Fig. 3 is a cross section of the plug and part of the casing on line 2—2 in Fig. 1; and Fig. 4 is a side elevation of the plug detached from its casing.

The syrup receptacle *a* has a handle at one side for transferring it from one bottle to another, and has the cock-casing *b* attached to its tapering lower end and an opening *c* extended from the funnel into the casing. A nozzle upon the bottom of the casing contains the discharge outlet *c'*. A vent-tube *d*

is connected with a passage *e* which extends close to the upper part of the casing, so as to readily vent the measuring chamber *f* in the plug *g*.

The casing is formed upon one end with a segmental notch *h* and the plug is provided with a stop-pin *i* which, by contact with the shoulders at the opposite ends of the notch, is set in suitable positions for filling and emptying the chamber. A handle *r* is shown upon the block for turning the same. The two positions of the stop are about 90 degrees apart, and the handle of the plug is turned upward to fill the measuring chamber, and crosswise to discharge it.

The plug is formed upon its smaller end with a hollow stem *j* upon which a nut *k* is screwed for securing the plug in its casing, a washer *l* being interposed, as is common. The interior of the hollow stem is threaded, and a block *m* is threaded to fit into the same and extends into the measuring chamber *f*, so that the screwing of the plug inward or outward serves to contract or expand the capacity of the chamber, and thus affords a means of varying the volume of liquid which is delivered at each charge. The plug *m* is made hollow and opens into the chamber *f* upon its inner end, so as to admit some of the syrup and not materially affect or reduce the capacity of the plug, and a regulating block may therefore be used without materially enlarging the dimensions of the plug, to obtain a given capacity.

An inlet hole *n* is formed in the plug to coincide with the opening *c* when the handle is turned upwardly and the stop *i* in its upper position as shown in Fig. 1; and a vent hole *o* is formed in the plug to coincide at the same time with the passage *e* leading to the vent-pipe. The turning of the plug into such position thus enables the liquid to flow from the funnel into the measuring chamber. The plug has a hole *p* adapted to coincide with the outlet *c'* when the plug is turned into the opposite position, with the handle to the right as shown in Fig. 2, the stop then contacting with the lower shoulder of the notch *h*. The hole *p* provides for the discharge of the fluid, and to vent the chamber when the plug is thus turned, a vent hole *q* is formed in the plug to coincide with the vent passage *e*. The stop *i* thus regulates the rotations of the

plug so that when turned in one position the holes *n* and *o* serve to fill and vent the chamber, while in the opposite position the vent holes *p* and *q* serve to empty and vent the chamber.

It will be understood that the nozzle *c'* is suitably formed upon the outside, as is common in such devices, to permit air to escape from the bottle during the filling operation. Such means is not shown as it forms no part of the invention.

The vent-tube is extended from the cock-casing upwardly upon the outer side of the receptacle *a* to the top of the same, and is secured in place by straps *d'* attached to the receptacle.

It is evident that when the plug is turned in the filling position shown in Fig. 1, the vented air moves upwardly in the vent-tube, and a portion of the syrup may rise within the vent-tube, and that such portion of syrup would, when the plug is turned in the opposite position shown in Fig. 2, flow back into the measuring chamber *f* and thence into the bottle; and the exact capacity of the chamber is not therefore the exact measure of the syrup discharge. The vent-tube is double acting in supplying air to the measuring chamber when the syrup flows therefrom.

In practice, the charges are found to be substantially uniform, because the operator in filling a large number of bottles naturally turns the handle *r* back and forth in a substantially uniform manner, that is, he holds it in its filling position and its discharging position for a uniform period of time in filling each bottle, so that the amount of syrup which flows out of and into the vent-tube with each charge of the plug is the same for each bottle.

This syrup measuring funnel is very cheaply made and forms a light and portable means of applying a graduated charge of fluid to a series of bottles successively by the hand of an operator, and it is in practice used as a substitute for the graduate glass which is often used for measuring the flavoring syrup, and pouring it into bottles before filling with carbonated water, and it is found that this syrup measuring device delivers charges far more uniform than those which are obtained with the use of the graduate glass, because the operator in pouring syrup from the bottle into the graduate is liable to vary the amount in his haste, and to

spill more or less when pouring the same into the bottle.

My invention differs from those previously used in having the cock-casing at the bottom of a funnel, so that a thick liquid like syrup can be completely discharged from the receptacle into the measuring cock, and in having a vent-tube extended from the cock-casing along the outside of the funnel to the top of the same, so that the syrup may rise in such vent-tube to the level of the syrup in the funnel, without overflowing; such vent-tube operating to discharge air from the measuring plug during the filling of the plug, and also to supply the plug with air or with an excess of syrup in the manner described above, when discharging the plug.

Having thus set forth the nature of the invention what is claimed herein is:

1. The portable syrup measuring funnel herein described, comprising the funnel *a* having handle *a'* at the side and its lower end tapered and provided with the cock-casing *b* having a nozzle with discharge outlet *c'* at the bottom and passage *e* with vent-tube *d* extended to the top of the funnel upon the outside of the same, the hollow plug *g* having the inlet *n* for filling the same, with the vent-hole *o* connecting with the vent-tube *d* during the filling of the plug, and having the hole *p* for discharging the same, with vent-hole *q* for admitting air to the plug during the emptying of the same.

2. The portable syrup measuring funnel herein described, comprising the funnel *a* having handle *a'* at the side and its lower end tapered and provided with the cock-casing *b* having a nozzle with discharge outlet *c'* at the bottom and passage *e* with vent-tube *d* extended to the top of the funnel upon the outside of the same, the plug *g* having the hollow block *m* fitted adjustably to the same for varying the contents of the plug without materially contracting its capacity, a stop to regulate the rotations of the plug *g*, and holes for emptying and venting such plug when moved in accordance with the stop.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN H. FOX.

Witnesses:

L. LEE,

THOMAS S. CRANE.