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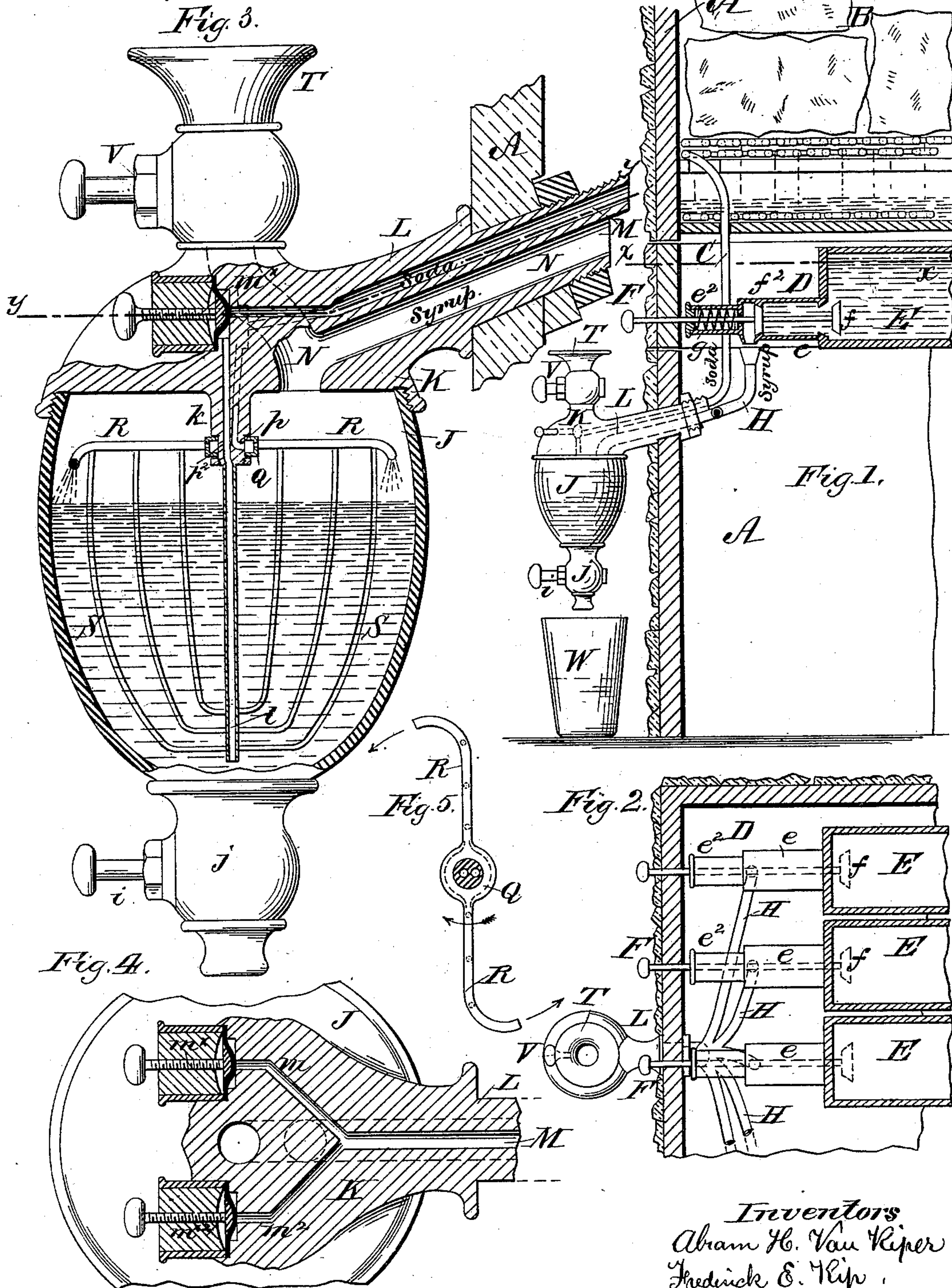
2 Sheets—Sheet 1.

A. H. VAN RIPER & F. E. KIP.

SODA FOUNTAIN.

No. 300,170.

Patented June 10, 1884.



Witnesses:  
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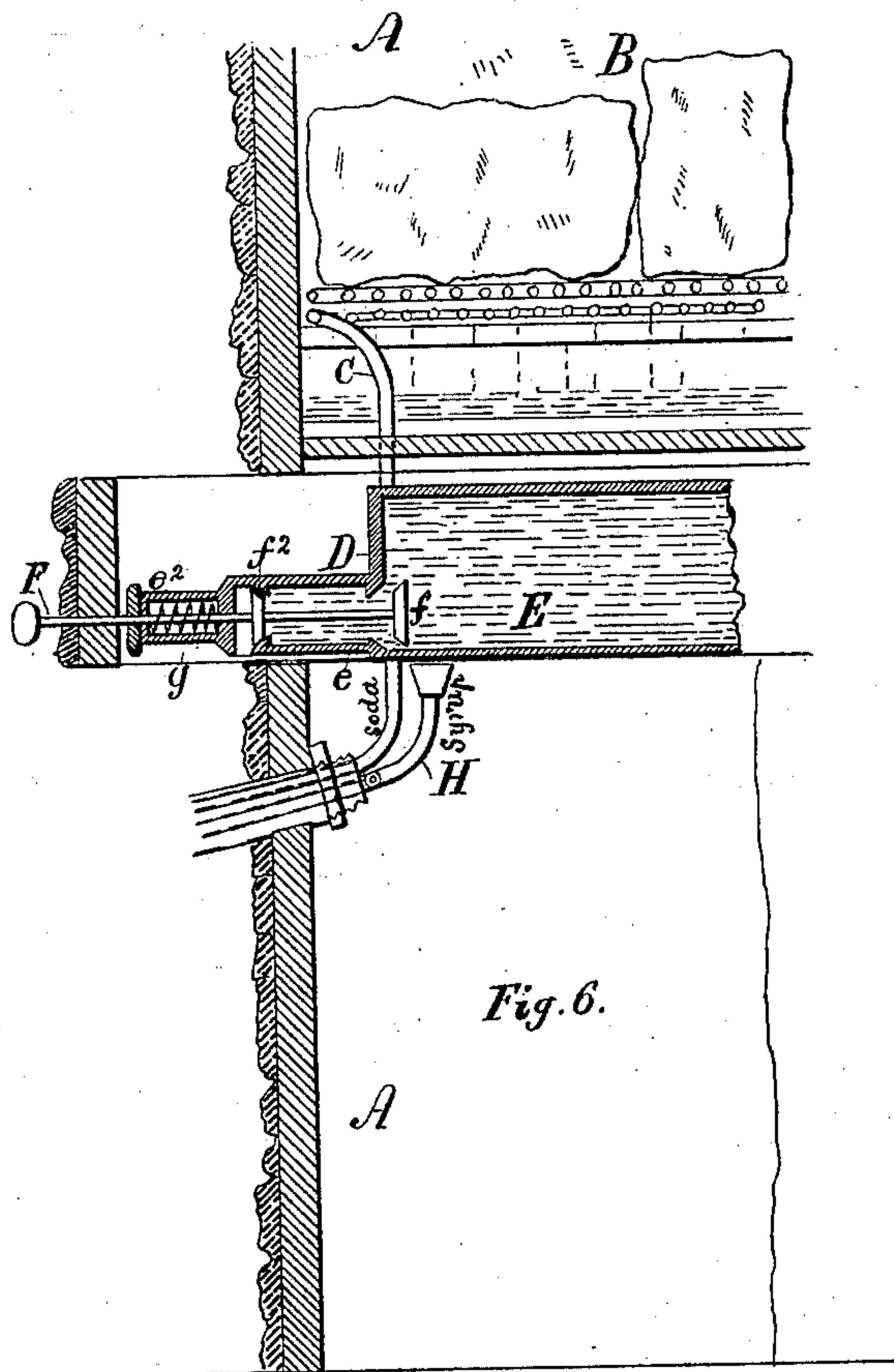
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WITNESSES:

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# UNITED STATES PATENT OFFICE.

ABRAM H. VAN RIPER, OF ORANGE, NEW JERSEY, AND FREDERICK E. KIP,  
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## SODA-FOUNTAIN.

SPECIFICATION forming part of Letters Patent No. 300,170, dated June 10, 1884.

Application filed September 20, 1883. (No model.)

*To all whom it may concern:*

Be it known that we, ABRAM H. VAN RIPER, a resident of Orange, Essex county, and State of New Jersey, and FREDERICK E. KIP, a resident of the city, county, and State of New York, citizens of the United States, have invented certain new and useful Improvements in Soda-Fountains, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates particularly to the construction, arrangement, and operation of devices for drawing the sirups from their respective chambers (not shown) and the soda-water from its source of supply and thoroughly mixing the same in a common receptacle before discharging into a glass, and afterward drawing and discharging a stream of fresh and live soda-water therein, whereby several advantages are obtained, as hereinafter particularly described.

In the accompanying drawings, Figure 1 represents a vertical sectional view of an apparatus embodying our improvements. Fig. 2 is a horizontal sectional view of the same, taken in the line *xx* of Fig. 1. Fig. 3 is a vertical sectional view of the apparatus for receiving and stirring or mixing the sirup and soda-water and discharging the same into a glass. Fig. 4 is a horizontal section of the same, taken in the line *yy* of Fig. 3. Fig. 5 is a detail view of a hollow revolving arm or tube, hereinafter referred to. Fig. 6 represents a vertical sectional view of an apparatus embodying our invention with the sirup-draw partly drawn out.

The sirup-cans, the ice, and the coil of pipe leading from the soda-fountain are inclosed in a box or case, A, the walls of which are constructed of slabs composed of cement having embedded therein small fragments of stone, marble, quartz, glass, wood, or any other suitable material, whereby the outer surface of the slab is made to present a unique and rustic appearance.

In the upper portion of the box or case A is the ice-chamber B, in which the ice is placed, and through which passes the coil of pipe C,

leading from the soda-fountain to the mixing and discharging apparatus. Said pipe passes upward from the soda-fountain to the lower portion of the ice-chamber, where it is formed into a number of coils, and then passes to a grating in the upper part of said chamber, where it is again formed into a number of coils and the ice placed thereon, and from thence it passes to the receiving and discharging apparatus. By first passing through the lower part of the ice-chamber the coil has the benefit of the ice-water collected therein.

Immediately under the ice-chamber is a drawer, D, in which the sirup-chambers E are arranged side by side. By arranging the sirup-chambers immediately under the ice-chamber they receive the benefit of the cold air from the chamber, and also the benefit of the drippings from the ice, and are thus kept constantly cool. When the sirup in one or more of the chambers becomes exhausted, the drawer D is pulled out through the front wall of the box or case A, as shown in Figs. 1 and 6, the sirup replenished, and the drawer replaced in position.

The sirup cans or chambers may be made of glass, porcelain, metal, or any other suitable material. Each can or chamber E is provided at its front end with an extension or neck, *e*, of suitable dimensions to contain the exact quantity of sirup required for a glass of soda-water. At the front end of this neck *e* is a further extension or neck, *e*<sup>2</sup>, both ends of which are closed, with the exception of the central hole in each, through which holes works a valve-rod, F, the outer end of which passes through a hole in the front wall of the drawer D, and projects beyond the outer surface thereof. The inner end of the valve-rod extends through the neck or extension *e* as far as the inner end of said neck, and carries a valve, *f*, opening inward, and having its seat at or near the inner end of said neck. On the rod F, at a distance from the valve *f* about equal to the length of the neck *e*, is another valve, *f*<sup>2</sup>, opening outward, and having its seat near the outer end of said neck *e*. Surrounding the rod F, inside of the neck *e*<sup>2</sup>, is a spiral



spring,  $g$ , one end of which bears against the outer end of the neck, and the other end engages with the rod with a tendency to press it inward, so as to keep the valve  $f$  open and the valve  $f^2$  closed, as shown. Between the outer surface or back of the valve  $f^2$  and the outer end of the neck  $e$  is a space equal to the thickness of said valve, and in the bottom of this space is an opening, immediately under which is the flaring or funnel-shaped upper end of a pipe,  $H$ , the lower end of which communicates with the receiving and discharging apparatus. The number of pipes  $H$  corresponds with the number of sirup cans or chambers. The flaring upper ends of the pipes are immediately under the openings in the necks of the sirup-cans, respectively, and their lower ends are joined and concentrated in a common spout or conduit communicating directly with the receiving and discharging apparatus.

The apparatus for receiving, mixing, and discharging the sirup and soda-water is made in two sections,  $JK$ , which are connected together by a screw-thread, or in any other suitable manner. The lower section,  $J$ , consists of a bowl-shaped vessel or chamber, provided at its bottom or lower end with a discharging-nozzle,  $j$ , furnished with a suitable valve or two-way cock,  $i$ . This section may be made of glass, metal, porcelain, or other suitable material; but glass is preferable, in order to afford a view of the interior and its contents. The upper section,  $K$ , is made preferably of suitable metal; and it consists of a cap or cover provided with a shank,  $L$ , similar to the shank of a faucet, which passes through a hole in the wall of the box or casing  $A$ , and is secured by a nut on the inner side thereof. The shank  $L$  is provided with two conduits,  $M$   $N$ —one for soda-water and the other for sirup. The concentrated ends or spouts from the sirup-chambers communicate directly with the inner or upper end of the conduit  $N$ , the lower end of which terminates at the bottom of the cap or cover  $K$  and empties into the bowl or chamber  $J$ . The end of the pipe leading from the coil containing the soda-water from the fountain communicates directly with the inner or upper end of the conduit  $M$ . This conduit extends down parallel with the conduit  $N$  to a point near where the shank extends out from the cap, and is there divided into two branches,  $m$   $m^2$ , provided with valves  $m^x$   $m^{x2}$ , of the form shown in Figs. 3 and 4 or any other suitable form. At the point where the branch  $m$  is engaged by the valve  $m^x$  said branch communicates with a conduit,  $p$ , extending down through a neck or stem,  $k$ , projecting from the center of the bottom of the cap or cover  $K$ . Near the lower end of this stem is a peripheral groove, and the lower end of the conduit  $p$  turns outward and terminates in said groove. This groove is formed by a shoulder near the lower end and a nut screwed on the extreme end, with a space between said shoulder and said nut. At the point where the branch  $m^2$  is engaged by the valve  $m^{x2}$  said

branch communicates with a conduit,  $p^2$ , which extends through the center of the stem  $k$  to its lower end, and terminates in pipe  $l$ , extending to near the bottom of the vessel or chamber  $J$ .

Referring to Figs. 3 and 5,  $Q$  represents a hollow ring, from two opposite sides of which extend radially two hollow arms or tubes,  $R$   $R$ , having their ends curved tangentially in opposite directions and slightly downward. The ring  $Q$  fits in the peripheral groove at the lower end of the stem  $k$ , which forms a center for its rotation, and the inner side of the ring is open and joins with said groove, so as to form a continuous annular tube, the ring being secured by the nut on the lower end of the stem. A suitable number of wires,  $S$ , are bent midway of their length and formed into a ring around the pipe  $l$  as a center of rotation, and their ends are turned up and secured to the arms  $R$ , forming a beater or dasher similar to those used in several well-known forms of egg-beaters.

On the top of the cap or cover  $K$  is an urn or funnel-mouthed vessel or chamber,  $T$ , having an opening in its bottom communicating with the sirup-conduit  $N$ , said opening being provided with a suitable valve or stop-cock,  $V$ .

The operation of this invention is as follows: When a glass of soda-water is to be drawn, the valve or stop-cock  $i$  in the nozzle  $j$  is first closed. The desired sirup or cream is then drawn by pulling outward on the valve-rod  $F$  communicating with the appropriate sirup-chamber. The neck  $e$  being full of sirup, when said rod is pulled out, the valve  $f$  closes and the valve  $f^2$  opens, thus allowing the sirup in the neck  $e$  to flow out into the pipe  $H$ , and from thence through the conduit  $N$  to the vessel or chamber  $J$ . When the valve-rod is released, the spring  $g$  forces it inward, so as to close valve  $f^2$  and open valve  $f$ , thus stopping the discharge of sirup from the neck, but allowing it to collect therein for the next supply. The valve  $m^x$  is then opened, so as to allow a stream of soda-water to flow through the conduit  $p$  to the annular tube and radial arms, where the effect produced is the same as in the well-known "Barker's Mill"—that is to say, the arms  $R$  and beaters  $S$  are caused to rotate around their centers, (the stem  $k$  and pipe  $l$ ), so as to thoroughly mix and combine the sirup and soda-water in the vessel  $J$ . This being accomplished, the valve  $m^x$  is then closed, so as to stop the further flow of soda-water into the vessel  $J$ . The valve  $i$  is opened so as to discharge the combined sirup and soda-water into the tumbler  $W$ , and the valve  $m^{x2}$  is opened so as to allow a fresh supply of soda-water to pass in a strong and forcible stream down through the pipe  $l$  and into the liquid in the tumbler, for the purpose of giving the desired life and effervescence thereto. The valve  $m^{x2}$  is then closed and the apparatus is again ready for action.

When a certain desired kind of sirup is not contained in any of the regular sirup cans or chambers, or has become exhausted therefrom, such sirup may be supplied by pouring it in



the urn or chamber T and opening the valve or cock V, so as to allow it to flow to the conduit N, and thence to the vessel or chamber J.

The vessel J may be rinsed, so as to remove the taste or trace of the sirup, by turning on a stream of soda-water through the conduit *p* and arms R.

What we claim as new, and desire to secure by Letters Patent, is—

10 1. The combination, in a soda-fountain, of the box or case A, the drawer D, and the sirup-chambers arranged side by side in the drawer, whereby facility is afforded for withdrawing all of said chambers simultaneously through  
15 the front wall of the box or case, substantially as herein described.

2. The combination, with the sirup can or chamber E, having the necks or extensions *e* *e*<sup>2</sup>, one forming a measuring-chamber, of the  
20 valves *ff*<sup>2</sup>, valve-rod F, common to both valves, and springs *g*, acting on the valve-rod with a tendency to close one valve and open the other, arranged and operating as shown and described, for the purpose specified.

25 3. In a soda-water fountain, a receiving, mixing, and discharging apparatus, consisting of a bowl or receptacle, J, and a cap or cover, K, having a shank, L, provided with two conduits—one for soda-water and the other for  
30 sirup—substantially as herein described.

4. The combination, with the sirup-chambers and the receiving and discharging apparatus, of the pipes H, having their upper ends flaring or funnel-shaped and arranged under their respective chambers, and their lower ends  
35 concentrated and communicating with the sirup-conduit, substantially as herein described.

5. The combination, with the soda-water pipe and coil C and the receiving and discharging apparatus, of the conduit L, branches *m* *m*<sup>2</sup>,  
40 valves *m*<sup>x</sup> *m*<sup>x2</sup>, conduits *p* *p*<sup>2</sup>, stirrers or beaters S, and vertical pipe *l*, substantially as and for the purpose herein described.

6. The combination, with the receiving and discharging apparatus, of the auxiliary sirup-  
45 receiver, consisting of the urn or chamber T, provided with the valve or cock V, and having an opening communicating with the sirup-conduit N, substantially as and for the purpose herein described.  
50

In testimony whereof we affix our signatures in presence of two witnesses.

ABRAM H. VAN RIPER.  
FREDERICK E. KIP.

Witnesses:

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