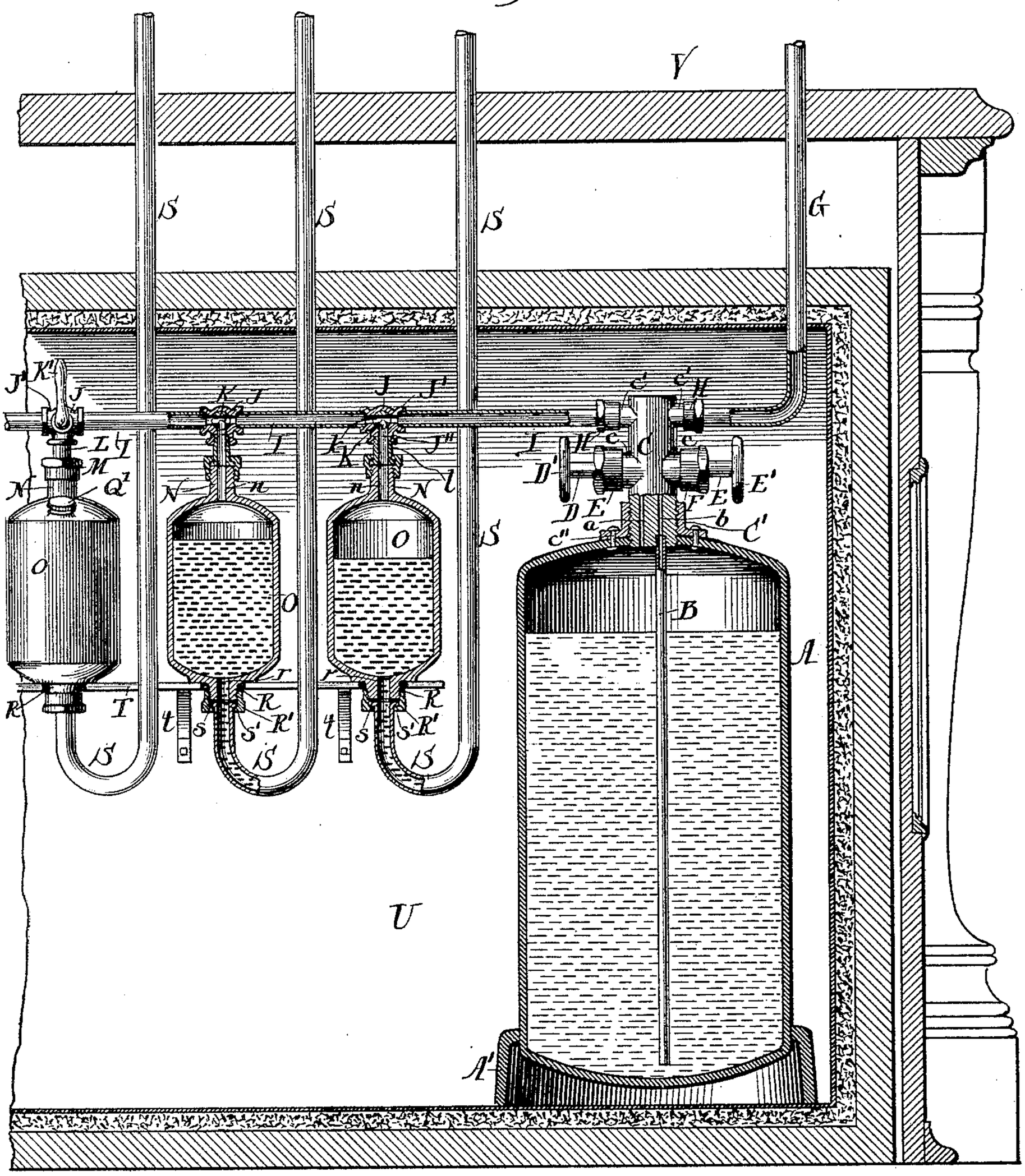
(No Model.) 2 Sheets—Sheet 1.

H. S. PARK.

DISPENSING APPARATUS FOR SODA AND OTHER AERATED FLUIDS.

No. 454,493. Patented June 23, 1891.

Fig. 1.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

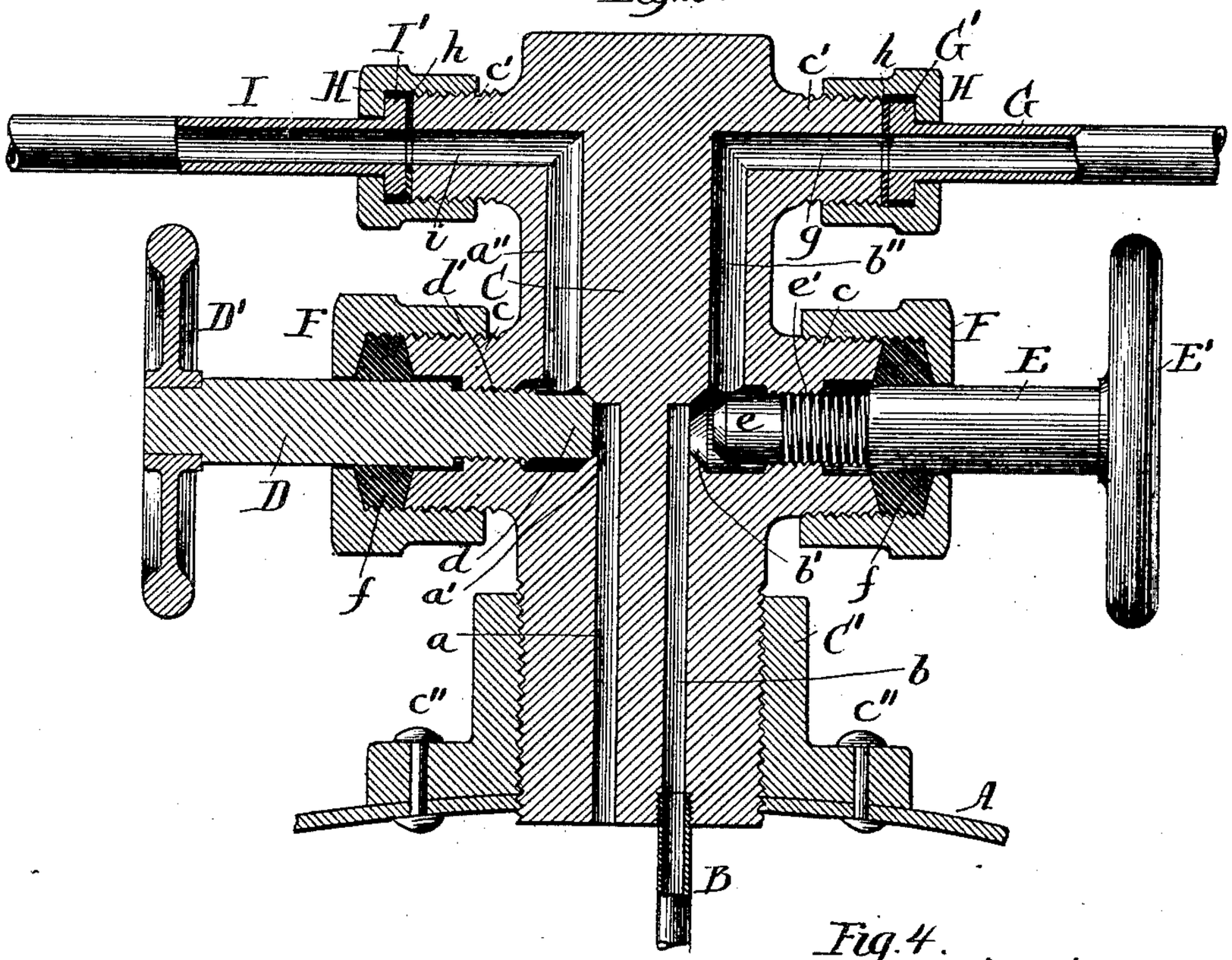


Fig. 3.

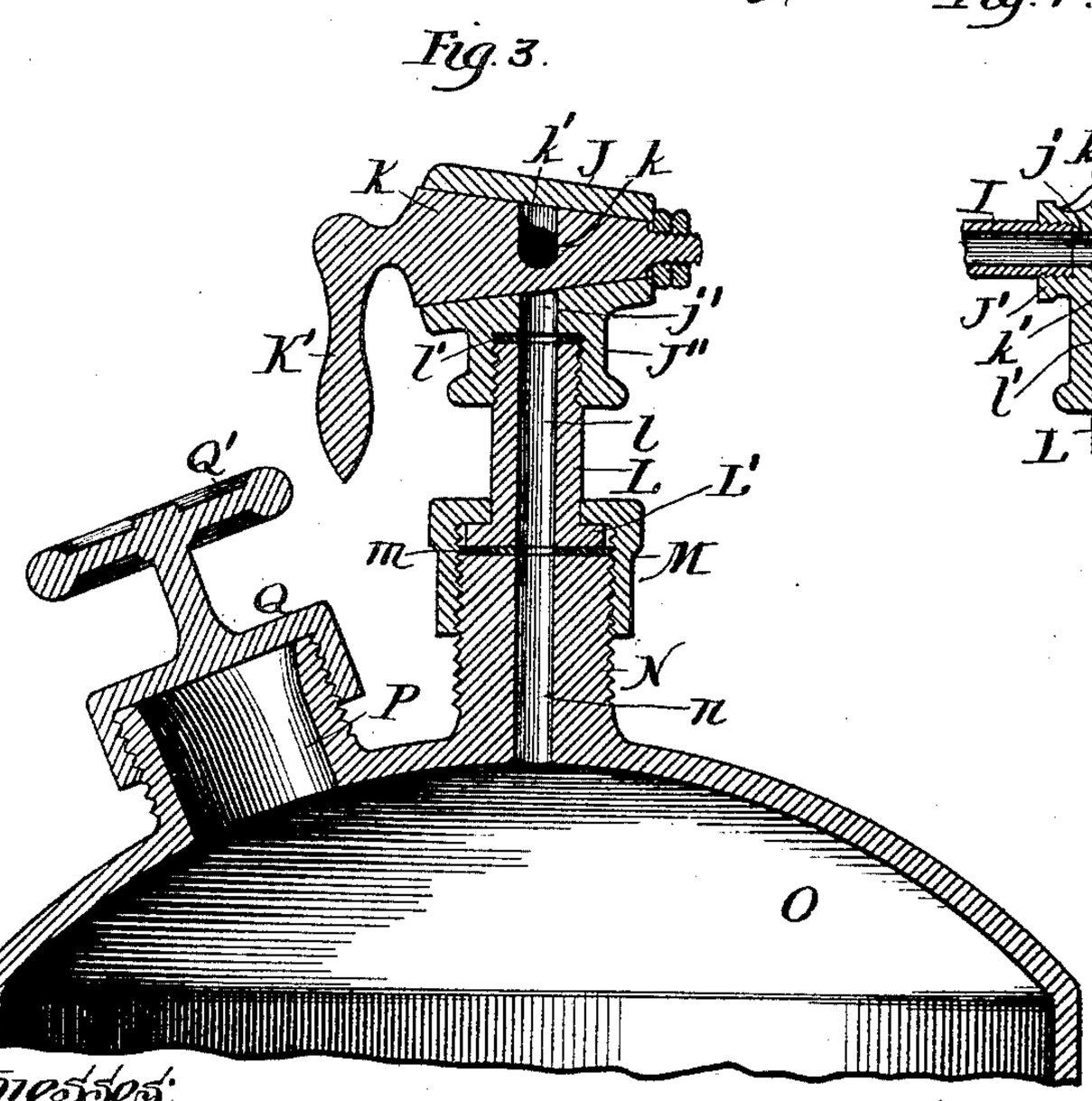
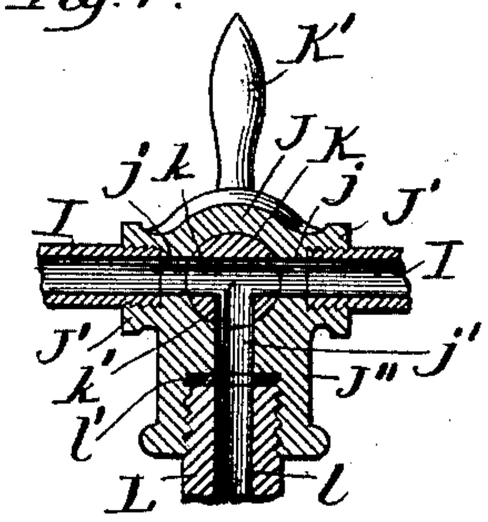


Fig. 4.



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UNITED STATES PATENT OFFICE.

HARVEY S. PARK, OF CHICAGO, ILLINOIS.

DISPENSING APPARATUS FOR SODA AND OTHER AERATED FLUIDS.

SPECIFICATION forming part of Letters Patent No. 454,493, dated June 23, 1891.

Application filed October 18, 1890. Serial No. 368,533. (No model.)

To all whom it may concern:

Be it known that I, HARVEY S. PARK, 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 Apparatus for Soda and other Aerated Fluids; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, forming a part hereof, in which—

Figure 1 is a sectional elevation showing the fountain and sirup-cans located in a receiver beneath a counter. Fig. 2 is a sectional elevation of the discharge-head for the fountain. Fig. 3 is a sectional elevation showing the valve controlling the supply of gas to the sirup-can. Fig. 4 is a detail in section of the valve for the sirup-can.

The objects of this invention are to dispense or discharge the sirup from the can through the medium of the gas generated from the fountain; to locate the sirup-can in a cooling-box and in such relation that it can be readily and quickly filled without withdrawing the can from position and enable the sirup to be dispensed or discharged without any trouble or any inconvenience and when a can is discharged of its contents have such can refilled without interfering with the use of the other cans; to enable either cold or hot soda to be dispensed from the same apparatus and have the hot soda fully carbonated, and to improve the construction and operation of the dispensing apparatus as a whole; and the nature of the invention consists in providing a connecting-pipe leading from the fountain and communicating with each of the sirup-cans for escaping or venting the gas from the fountain into the can to dispense or discharge the sirup; in providing a discharge head or cock for the fountain by which the carbonated water can be discharged and at the same time the gas escape to the sirup-cans; in providing a valve for each sirup-can communicating with the gas-pipe for admitting gas to or shutting off gas from each can independently; in the several parts and combinations of parts hereinafter described, and pointed out in the claims as new, and in the method of dispensing or discharging sirup from sirup-cans through the medium of the pressure of the gas generated in the fountain.

In the drawings, A represents a fountain of the usual construction and supported upon a base or legs A′.

B is the discharge-tube for the carbonated water or other fluid in the fountain A, which tube is located and operates in the usual manner.

C is the discharge head or cock, which is screw-threaded at one end and enters a collar C′, attached by rivets *c″* or otherwise to the head of the fountain A. The body of this head or cock C has a discharge-passage *a* and a discharge-passage *b*, and the pipe B is screw-threaded into the end of the head or cock C, so as to be in line with the discharge-passage *b*. The head or cock C on opposite sides has necks *c* and necks *c′*, as shown in Figs. 1 and 2.

D is a valve-stem having on its outer end a hand-wheel D′ and having at its inner end a valve *d*, which seats around a port *a′*, leading from the passage *a*, and this valve *d* opens and closes communication with the port *a′* and the passage *a″*, formed in the body of the head or cock C, and the stem D of the valve is screw-threaded on its exterior and enters a screw-threaded opening *d′* in the neck *c*, by means of which screw-thread the valve *d* is advanced and receded by turning the stem D through the hand-wheel D′.

E is a valve-stem having at its outer end a hand-wheel E′ and having at its inner end a valve *e*, which seats around a port *b′*, communicating with the passage *b*, and this valve *e* opens and closes communication between the port *b′* and the passage *b″*, formed in the body of the head or cock C, and the stem E of the valve *e* is screw-threaded on its exterior and enters a screw-threaded hole *e′* in the neck *c*. The valve *d* controls the escape of gas through the passage *a*, port *a′*, and passage *a″*, and the valve *e* controls the escape of the charged water or other fluid from the pipe or tube B through the passage *b*, port *b′*, and passage *b″*, and these valves *d* and *e* are located and operated on opposite sides of the head or cock C.

F are stuffing-boxes, one for the stem D and

one for the stem E, each stuffing-box inclosing a packing *f*, which is compressed against the respective stems, so as to make a tight joint.

G is a discharge-tube for the charged water or other fluid, which tube at its attached end has a flange G′ for attaching the tube to a neck *c′*, and in the neck *c′* is a passage *g*, which communicates with the passage *b″* and is in line with the passage of the tube G.

H are coupling-boxes, one for each neck *c′*. The coupling-box on one side receives the flange G′ of the tube G, and when the coupling-box is screwed into place on its neck *c′* the tube G is attached, and, as shown, a gasket *h* is located between the face of the flange G′ and the under face of the neck *c′*, so as to make a tight joint.

I is a tube having at one end a flange I′, which enters the coupling-box H, so that when the coupling-box is screwed onto the neck *c′* the tube I is attached to the neck *c′* for the passage in the tube to be in communication with a passage *i* in the neck *c′*, which passage *i* communicates with the passage *a″*, and in order to make a tight joint between the end of the tube I and the end of the neck *c′* a gasket *h* is provided. The pipe I is made of as many sections as required for the connections with the desired number of sirup-cans.

J is the shell or casing of a valve, which shell or casing has on opposite ends or sides necks J′, and at right angles to these necks J′ neck J″, and the necks J′ receive the ends of the sections of the pipe I, while the neck J″ is for attachment of the valve to a sirup-can, and each neck J′ has a passage *j* through the body of the shell, and the neck J″ has a passage *j′* through the body of the shell J, as shown in Fig. 4.

K is a plug or taper valve fitting a chamber therefor in the shell or casing J, and held in place in its chamber by suitable nuts or otherwise, and having a handle K′ for turning the valve. The body of this valve K has a transverse opening through it, which opening or passage *k* furnishes communication between the passages *j* when the valve is properly turned, and leading from the opening or passage *k* is an opening or passage *k′*, which when the passages *j k* are in communication is in connection with the passage *j′*.

L is a connection or coupling, one end of which is screw-threaded onto the neck *j″*, the other end of which has a flange L′ in the construction shown, and this tube or connection L has a passage *l*, which when the parts are together communicates with the passage *j′*.

M is a coupling-box receiving the flange L′.

N is the neck of the sirup-can, the exterior of which is screw-threaded to receive the coupling-box M, and in order to make a tight joint between the end of the neck N and the flange L′ a gasket *m* is provided. The neck N has a passage *n*, which when the parts are together communicates with the passage *l* of the connection or tube L.

O is a sirup-can, made of the usual material and of a circular or other shape in cross-sections.

P is the filling-opening for the sirup-can O.

Q is a cap or cover screw-threaded onto the wall of the opening P for closing such opening, and, as shown, the cap or cover Q is connected by a stem with a hand-wheel Q′, by means of which the cap is attached and removed.

R is a neck at the bottom of the sirup-can, O, which neck has a discharge opening or passage *r* leading from the interior of the sirup-can.

S is the discharge-tube for each sirup-can leading from the can to a discharging cock or faucet, (not shown,) which may be of any well-known form of construction. The end of the tube S for attachment to the neck R has a flange S′, which enters a coupling cap or box R′, which screw-threads onto the neck R, and, as shown, the joint between the flange S′ and the neck R is made tight by a gasket *s*.

T is a shelf supporting the sirup-can, and which in turn is supported by suitable brackets or angle-irons *t*, attached to the receiving-box for the cans.

U is the receiving-box for the cans, which box, as shown, also receives the fountain A, and this box may be in the nature or construction of a box for receiving ice to keep the contents of the fountain A and the sirup-can cool, and is to have a suitable cover, which can be raised for access to the interior for removing the fountain A and for filling the sirup-cans O. This box can be a receiver for sirup-cans only, in which case the fountain A can be located in the cellar or otherwise, and cooling-pipes can be provided for keeping the receiver U cool.

V is a counter beneath which is located the box or receiver U, and through which the dispensing-pipes S lead, so that the glass for the sirup can be placed in position beneath the proper dispensing-tube S and receive the charge of sirup as usual.

The valve-stem D is screwed into its neck *c* for the valve *d* to seat around the port *a′*, and the stuffing-box F, with the stuffing *f* therein, is slipped onto the valve-stem D and screwed onto the neck *c*, attaching the valve *d* in position in the head or cock C, and the hand-wheel D′ is attached to the end of the stem D. The valve-stem E is screwed into the neck *c′* for the valve *e* to seat around the port *b′*, and the stuffing-box F, with the stuffing *f*, is slipped onto the stem E and screwed onto the neck *c*, and the hand-wheel E′ attached to the end of the stem E. The pipe B is screwed into the end of the head or cock C in line with the passage *b*, and the head or cock C is then screwed into the collar C′, attaching the head or cock to the fountain A. The coupling cap or box H is slipped onto the tube G, receiving the head or flange G′, and then screwed onto the neck *c′*, with the gasket *h* between the neck and flange, attaching the

tube G to be in line with the passage *g*. The first section of the pipe I is slipped into the coupling cap or box H for the head or flange I′ to lie in such box, and the coupling box or cap H is screwed onto the neck *c′*, with the gasket *h* between the flange I′ and neck *c′*, attaching the first section of the pipe I in line with the passage *i*. The outer end of the first section of the pipe I has screwed thereto a shell or casing J by one of the necks J′ for the passage in the tube or pipe I to be in line with the side passage *j*. The connection or tube L is screwed into the neck J″ for its passage *l* to be in line with the passage *j′*, and, if desired, a gasket *l′* may be used to make a tight joint in the neck J″. The coupling shell or box M, which has been slipped onto the connection or tube L before entering such tube into the neck J″, is screwed onto the neck N of the first sirup-can O, with the gasket *m* between the flange L′ and the neck N, completing the connection of the first sirup-can to the tube or pipe I, and the next section of the tube or pipe I has one end screwed into the first shell or casing J, and the second shell or case J is attached to its other end by a neck J′, and this shell or case is attached to the second sirup-can, as described, for the connection of the first shell or case with the first sirup-can, and other sections of the pipe I are attached and connections made with the other sirup-cans in the same manner until all the sirup-cans are connected. The pipe S from each sirup-can is attached to the neck R of this can by the coupling box or cap S′, and such pipe is led to the discharging-point, and the sirup-cans are placed in the receiver or box U on the shelf D or suspended in such receiver or box in any suitable manner, and with the fountain A charged the dispensing apparatus is ready for use, the sirup-cans having been filled with the desired sirup by unscrewing the cap or cover Q and filling the can through the mouth or opening P, and when filling the can the plug-valve K is turned so as to close the opening or passage *j′*, as shown in Fig. 3.

In use the valve *e* is opened for the charged water or other fluid to pass from the fountain A through the tube B, passage *b*, port *b′*, passage *b″*, passage *g*, and tube G to the draft cock or valve, and the valve *d* is open for gas in the upper part of the fountain A to pass into the passage *a*, port *a′*, passage *a″*, and passage *i* into the tube I, and when the plug-valve K is turned as shown in Fig. 4 this gas will enter each sirup-can through the passages *j*, *j′*, *l*, and *n*, and such gas will produce a pressure in the sirup-can, by which the sirup will be forced into the tube S and can be drawn from such tube at the discharge end into a glass or tumbler, as usual, and for discharging into the glass or tumbler each pipe S is provided with a cock or other suitable device to govern the flow of the sirup. The dispensing of the soda or aerated water is essentially the same as any other forms of apparatus, the tumbler being placed in position to receive the desired sirup, which is discharged thereinto from the tube S, after which the tumbler is placed beneath the soda-water discharge and the water or other fluid turned thereinto.

The valves K, controlling the flow of the gas from the pipe I into each sirup-can, are constructed, as shown in Figs. 3 and 4, so that by turning the valves as shown in Fig. 3 free communication is had between the pipe I and each sirup-can for the gas to enter the cans, and by turning the valve into the position shown in Fig. 3 the discharge-passage *j′* is closed, and no gas will pass into the sirup-can, and when in this condition the cap Q can be removed and the can filled with sirup without removing the can from the box or receiver U, and when filled the cap Q is screwed on and the valve K turned as shown in Fig. 4, when the sirup-can is again ready for use to discharge the sirup by the pressure of the gas through the pipe S.

The sirups have heretofore been dispensed or discharged from ordinary bottles or from sirup-cans or jars placed in boxes and drawn into tumblers by means of cocks or other appliances, using gravity as the dispensing means, and the water or other charged fluid has been drawn by means of a tube extending downward to the point in the fountain near the bottom, so that with the pressure of the gas in the fountain the water or other fluid will be forced to flow through the inserted tube to the discharge-point, and this gas in the fountain always lies at the top of the fountain.

The present invention consists, essentially, in utilizing this gas for forcing or driving the sirup from the can, thereby enabling the can to be located below the drawing-point and in an ice-box or other receiver where it is readily accessible, and this end is accomplished by connecting each sirup-can with the upper portion of the fountain, so that gas can flow from the fountain and enter the sirup-can, and such connection can be had in the manner shown or by means of other devices which will attain the same end, and this gas admitted to each sirup-can will occupy the space at the top of each can and exert a pressure by which the sirup will be forced from the can.

The communication of the sirup-can with the gas-supply pipe is one which enables each can to be shut off whenever desired for filling or other purposes without interfering with the dispensing of the sirup from the other cans, as when the valve is turned to shut off one can the opening or passage *k* is still in line with the opening or passage *j*, allowing free communication through the whole length of the pipe I.

The locating of the sirup-cans in a box or receiver enables the sirup to be kept constantly cool, as the box or receiver can be supplied with ice or other cooling medium, and at the same time the sirup-cans are located

where they are readily accessible for filling or other purposes, so that they can be refilled without removal.

The invention can be used for dispensing either cold or hot soda or other aerated or charged waters, and if used for drawing hot soda the carbonated gas passing into the sirup cans or jars will charge the sirup in such cans or jars, and the charged soda will be drawn into the tumbler, and hot water from any suitable heater can then be turned into the sirup, or the sirup will be dispensed into hot water, and in either case the drink will be hot and will be charged with the aerated or carbonated sirup or fluid, forming a drink essentially the same as that drawn with cold water, differing in this respect from the so-called "hot soda" now dispensed, in which nothing more is had than hot water poured or mixed with a sirup, and this mixture is dispensed as hot soda, while in fact no aeration is had therein.

The fountain A is to be charged as usual, and where a compact apparatus is required the fountain and jars can be located in one box or receiver, or the fountain can be located outside of the box or receiver for the sirup-cans at any point desired, the pipe I for the sirup-cans extending to the fountain, so that the carbonated gas from the fountain can be used to dispense the sirup from the jar.

The head for discharging the gas and fluid instead of being a single head with two passages, one for the gas and one for the fluid, could be a single head with a passage for the gas and a single head for the passage of the fluid, each head having a valve for closing the passage, and where it is desired to dispense sirup from a fountain without dispensing the water or other fluid from the same fountain a head can be provided having only a venting-passage for the gas, with a valve controlling such passage and a pipe connecting the head with the sirup-jars, as shown, or in any other suitable manner that will furnish a connection by which the pressure of the gas can be utilized to discharge the sirup and the gas shut off from a jar when desired for filling the jar or for other purpose.

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

1. The combination, with a charged fountain for aerated fluids, of a head having a passage communicating with the gas-chamber and a passage communicating with the fluid, a valve controlling the gas-passage, a valve controlling the fluid-passage, and a sirup-can connected with the gas-passage for discharging the sirup with the pressure of the fountain-gas and dispensing the charged fluid, substantially as and for the purposes specified.

2. The fountain A, having a chamber for free gas, head C, passage a in the head C, communicating with the gas-chamber of the fountain A, port a' for the passage a, passage a'', leading from the port a', passage i, communicating with the passage a'', valve d, controlling the port a', and pipe I, communicating with the passage i, in combination with the shell J, having the passage j and the passage j', valve K, having the passage k for communication with the passage j and passage k' for communication with the passage j', and a sirup-can communicating with the passage j' for escaping gas from the fountain-chamber to the sirup-can, substantially as and for the purposes specified.

3. The fountain A, having a chamber for free gas, head C, passage a in the head C, communicating with the gas-chamber of the fountain A, port a' for the passage a, passage a'', leading from the port a', passage i, communicating with the passage a'', valve d, controlling the port a', pipe I, communicating with the passage i, casing J, having a passage j and a passage j', and valve K, having a passage k, communicating with the passage j, and a passage k', communicating with the passage j', in combination with the tube L, having the passage l, sirup-can O, connected with the casing J by the tube L, and discharge-pipe S, leading from the bottom of the sirup-can for the escape of the gas from the fountain-chamber into the sirup-can and discharging the sirup through the pipe S by the pressure of the gas, substantially as specified.

4. The fountain A and head C, having a passage a, port a', and passage a'', controlled by a valve d, and the passage b, communicating with the fluid-discharge pipe B, port b', and passage b'', controlled by the valve e, in combination with the passage i in the head C, pipe I, communicating with the passage i and with the sirup-can passage g, communicating with the passage b'', and pipe G, communicating with the passage g for dispensing sirup and carbonated fluids from the same fountain, substantially as specified.

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