

No. 684,041.

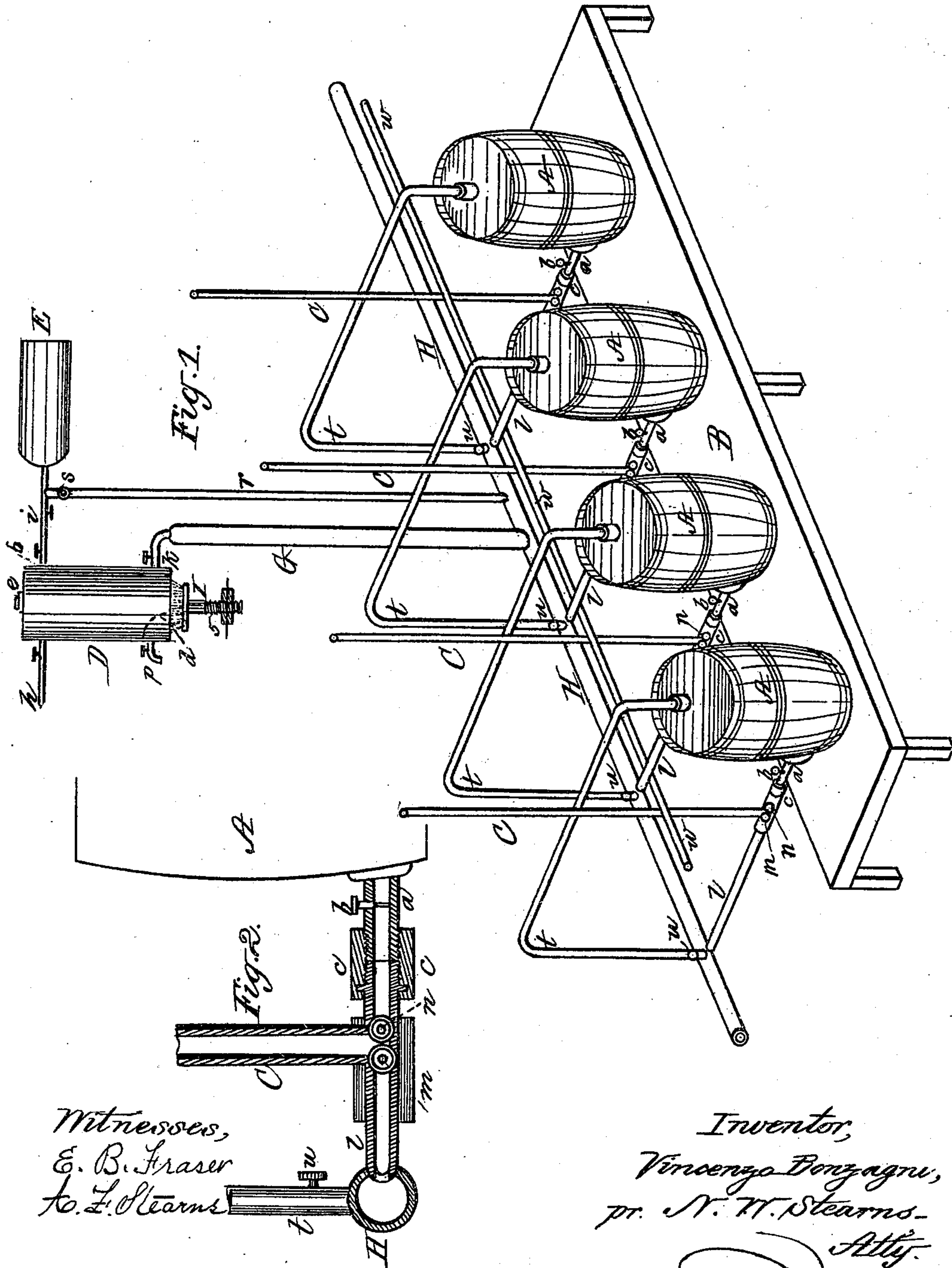
Patented Oct. 8, 1901.

V. BONZAGNI.

BEVERAGE DISPENSING AND PIPE CLEANSING APPARATUS.

(Application filed Jan. 7, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

VINCENZO BONZAGNI, OF BOSTON, MASSACHUSETTS.

BEVERAGE-DISPENSING AND PIPE-CLEANSING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 684,041, dated October 8, 1901.

Application filed January 7, 1901. Serial No. 42,433. (No model.)

To all whom it may concern:

Be it known that I, VINCENZO BONZAGNI, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Beverage-Dispensing and Pipe-Cleansing Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a view showing a number of beverage-receptacles, their draft and pressure pipes, and the branch pipes for cleansing the draft-pipes, all permanently connected in accordance with this invention. Fig. 2 is a local section enlarged.

On the condition of the retailer's draft and dispensing pipes largely depends the pure, bright, and fresh or the indifferent or bad state of the beverage by the time it reaches the individual who drinks it, for it is well known in serving not only malt liquors, but soda, milk, cider, and fancy tonic drinks when conducted through metal pipes from barrels or other receptacles to draft or supply cocks that sooner or later the interior of the service-pipes becomes coated with the sediment in said liquors, and where the flow is temporarily suspended—as, for instance, over night, or from Saturday night to Monday morning when not in use, or during the day where the demand is small or intermittent—the pipes become foul and the impurities therein taint the beverage and cause much sickness, the origin of contagious diseases—such as typhoid fever, diarrhea, and cholera—being constantly traced to foul beverage-pipes. To remove this public danger is the object of my present invention, which particularly relates to certain apparatus for cleansing beverage-pipes for which United States Patents No. 353,413, dated November 30, 1886, and No. 598,301, dated February 1, 1898, were granted to me. The construction set forth in Patent No. 353,413 admitted of the thorough purification of the interior of each draft-pipe separately, but only one at a time. The construction set forth in Patent No. 598,301 provided for the simultaneous flushing and thorough cleansing of any number of draft-pipes at one operation, which was made possible by a main cleansing-pipe issuing from

a tank containing a cleansing agent, said main cleansing-pipe having a series of branches corresponding in number to that of the draft-pipes. This latter construction greatly facilitated the cleansing operation; but the uncoupling of each draft-pipe from its beverage-receptacle, the coupling of each draft-pipe to its corresponding (contiguous) cleansing branch, and the recoupling of the draft-pipe (after being cleansed) to its beverage-supply in order to restore its flow to the place of serving were rendered necessary, said three successive steps, however, occupying much less time and being performed more conveniently than the cleansing of each pipe separately.

This invention has for its object to economize the time and labor involved in the said manipulations of the draft-pipes; and my present invention consists in the combination and permanent attachment of all the draft-pipes with their corresponding cleansing branch pipes and in providing each draft-pipe and each cleansing branch with a separate and independent controlling stop-cock, which may be opened and closed to permit either the cleansing operation or that of dispensing the beverage, as occasion requires.

My invention also consists in the combination and permanent attachment of the pressure-pipes with the cleansing branches whether the draft-pipes are or are not permanently attached to the latter and also consists in an auxiliary receptacle for containing carbonic-acid gas or compressed air in combination and connected with the cleansing-receptacle, suitable pipes and controlling-cocks being provided each and so located that either the cleansing of all the draft-pipes may be simultaneously or singly performed or discontinued, the pressure on the beverage be applied or suspended, and the flow of the beverage be stopped or restored without the interference of any one function with the other, the construction and operation of the several features of my invention being hereinafter particularly described, and set forth in the claim.

In the said drawings, A A, &c., represent a series of kegs for containing the beverages to be dispensed—for instance, beer, ale, tonic drinks, soda, milk, &c.—said kegs being con-

veniently located in the cellar of the retailer on a raised platform B. The draft-outlets of the kegs are controlled by plugs *a*, having faucets *b* for opening and closing the same in the usual way, said plugs having outer screw-threads for the reception of the couplings *c* of the draft-pipes C C, &c., Fig. 2.

D is a tank, at the bottom of the inside of which is a perforated partition or strainer *d*, Fig. 1. The top of the tank D is provided with an opening having a cover *e*, through which opening is introduced any suitable cleansing agent soluble in water, such as sal-soda, chlorid of lime, potash, &c. *h* is an inlet-pipe, through which water is supplied to the top of the tank, said inlet being provided with a controlling-faucet.

i is a pipe for the admission of compressed air or carbonic-acid gas contained in a tank E, said pipe leading into the top of the tank D through an inlet *g* and being provided with a governing-cock, by which pressure is let on or shut off therefrom.

At one side of the bottom of the cleansing-tank D is an outlet *k*, controlled by a faucet. With this outlet *k* is coupled one end of a cleansing-pipe G, extending vertically downward to a horizontal main cleansing-pipe H, having a series of branches *l l l l*, &c., corresponding in number and permanently attached to the bottoms of the several draft (or beverage-supply) pipes C C C, &c., the outer end of each cleansing-branch *l* and the bottom of each draft-pipe C where they are connected being provided with a governing-cock *m*, the point where the bottom of each draft-pipe diverges horizontally to its keg connection being also provided with an independent governing-cock *n*. (See Fig. 2.) This permanent attachment of the draft-pipes with their corresponding cleansing branches and locating the points of union of the draft-pipes with their keg connections on the same coupling carrying the cleansing branches is one of the vital features of this invention, as by such permanent connection, &c., all uncoupling of the draft-pipes from their keg connections is dispensed with, (when the keg is not empty,) the coupling of the draft-pipes to their cleansing branches and the recoupling of said draft-pipes to their keg connections to restore the flow is rendered unnecessary, and consequently the time, labor, and inconvenience involved in these operations incident to the construction set forth in my Patent No. 598,301 are entirely avoided.

The kegs are located at such distance apart that ample room is afforded for the passage of the attendant whose office it is to manipulate the several controlling-cocks during the operations of cleansing the draft-pipes and restoring the flow of the beverage and for the disconnecting and removal of the empty kegs and the locating and coupling of full ones. Also at the bottom of the cleansing-tank D, on the side opposite the outlet *k*, may be located, if desired, another outlet *p*, from which

the cleansing liquid may be drawn for use in washing utensils of various kinds and for general domestic cleansing requirements, said outlet being controlled by a stop-cock, Fig. 1. The capacity of the tank must be adequate to contain sufficient cleansing liquid for thoroughly cleansing all of the beverage-pipes C at one and the same time without refilling the tank and not merely a sufficient quantity for cleansing each pipe separately. The water in the tank is preferably heated by any medium which happens to be most convenient—for instance, by gas-jets from a burner I, located under the tank, Fig. 1, or by an oil-lamp or by electricity through a resistance-coil within the tank, the efficiency of a cleansing liquid in a hot state being thereby increased, care being had to remove the cover in the top of the tank and close the pressure-inlet *i* before the heat is applied. The flame from the burner I is conveniently regulated by a pair of screw-threaded nuts 5, turned over the threaded exterior of said burner, the description of the same being set forth in my Patent No. 598,301. The shape of the tank will be governed by the form and position of the space in which it is to be located, and it will be desirable to locate it within convenient reach of the person using the apparatus.

w is a support for holding the pressure-pipes in position when their lower coupling ends are detached from the tops of the kegs.

t t are the pressure-pipes, leading from the common pipe H to the tops of the several kegs A. The bottom of each pressure-pipe is provided with a stop-cock *u*.

r is a pipe leading from the tank E to the pipe H, and *s* its controlling-cock.

Operation: To cleanse all the draft-pipes simultaneously without the necessity of uncoupling, close the valve *n* at the bottom of each draft-pipe C to check the further supply of the beverage from its keg. Let the pressure act from the tank E through the pipe *r* by opening the cock *s* thereon till the contents of the draft-pipes are discharged through their draft-cocks at the bar. Then shut off the pressure from the kegs, open the valve *m*, which controls communication between each cleansing-branch *l* and its draft-pipe C, open the outlet-cock *k* of the cleansing-tank, and continue the flow of the cleansing liquid through the interior of all of the draft-pipes until the sediment deposited and accumulated therein is removed and discharged through the draft-cocks. Then to remove the taste of the alkaline solution let fresh water run through them by opening the cock of the water-supply pipe *h*. To restore the flow of the beverage, close the outlet *k* of the cleansing-tank, closing all the valves *m* of the cleansing branches, open the valves *n* of the draft-pipes leading to their keg connections, and finally open the several cocks of the pressure-pipes.

I claim—

In a beverage-dispensing and pipe-cleansing

apparatus; the following instrumentalities, viz.—a permanently-located tank D having a cover-controlled opening at its top through which a cleansing agent is introduced, an inlet *h* for receiving a water-supply, said inlet being provided with a controlling-faucet, an inlet *g* for the admission of air or gas, a governing-cock therefor, an outlet *k*, controlled by a stop-cock, a main cleansing-pipe G extending downward therefrom, a horizontal cleansing-pipe H connected with its bottom and located in proximity with the positions occupied by the several beverage-kegs, and a series of minor or branch pipes *l, l, l, l*, projecting at intervals from the horizontal pipe H at points along its length, in combination with, corresponding in number, and permanently attached to the draft-pipes C C C C; the point of connection of each cleansing branch and its contiguous draft-pipe being provided with a governing-cock *m*, and the bottom of each draft-pipe where it diverges horizontally to its keg connection having a controlling-cock *n*, a tank E for containing compressed air or carbonic-acid gas, a pipe *i* for conveying same to the top of the cleans-

ing-tank, said pipe being controlled by a stop-cock, a pipe *r* for conducting said pressure medium to the horizontal cleansing-pipe H and a controlling-cock *s* contiguous to the pressure-tank for letting on and shutting off said pressure, a series of branch pressure-pipes *t t t t* connecting said pipe H with the tops of their respective kegs, each pressure branch *t* being controlled by a cock *u* located at its junction with the pipe H for opening and closing communication with the same; the said horizontal pipe H serving the double function of a common service-pipe, viz.—for conducting the cleansing liquid to the draft-pipes when they are to be flushed, or for conveying the pressure to the branch pressure-pipes leading to the tops of the kegs, when the beverage is being drawn, all constructed to operate substantially as specified.

Witness my hand this 28th day of December, 1900.

VINCENZO BONZAGNI.

Witnesses:

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