No. 680,499. Patented Aug. 13, 1901.

J. NAGELDINGER.

DEVICE FOR DRAWING EFFERVESCENT LIQUIDS.

(Application filed Jan. 25, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig: 1.

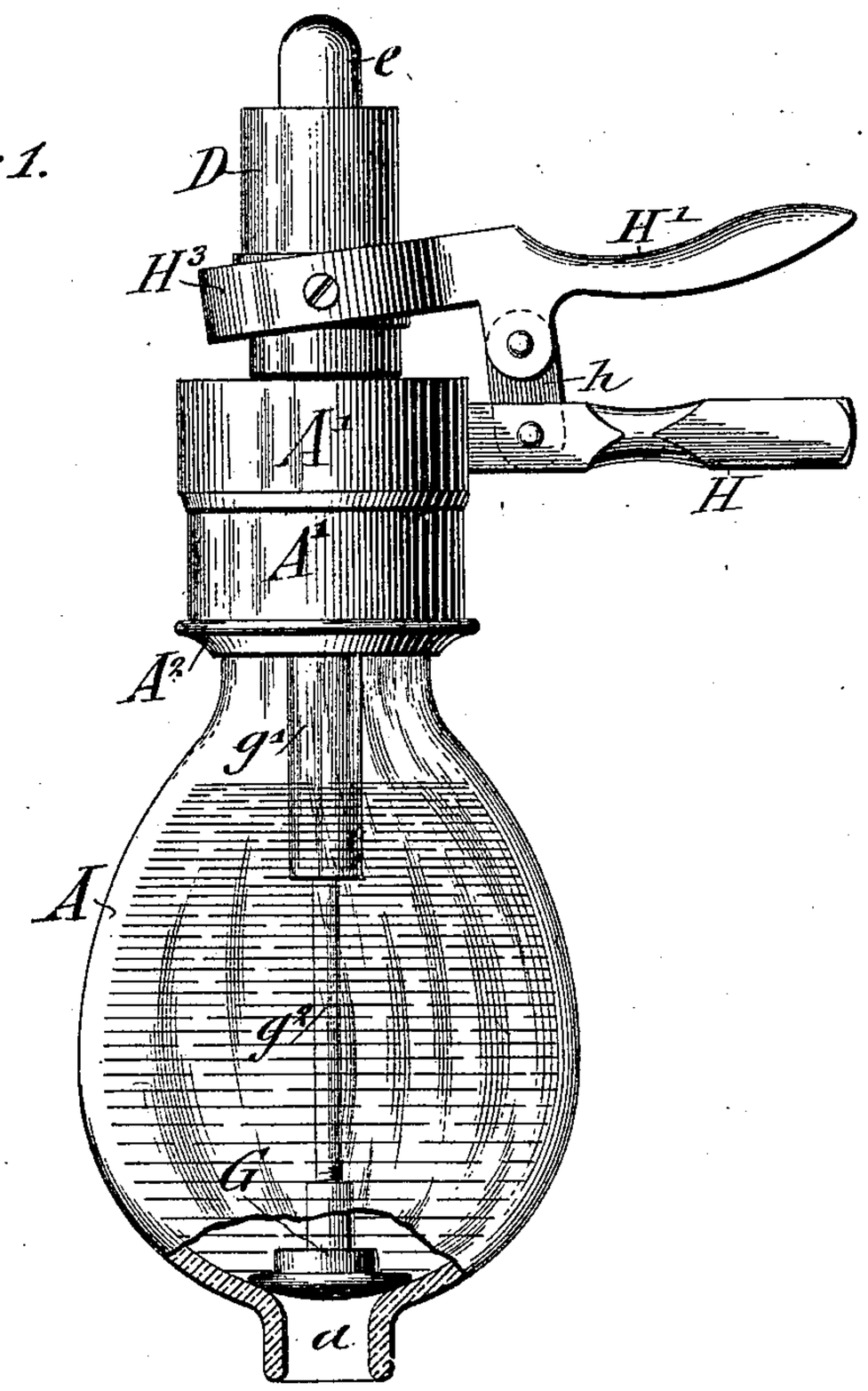

Fig: 2.

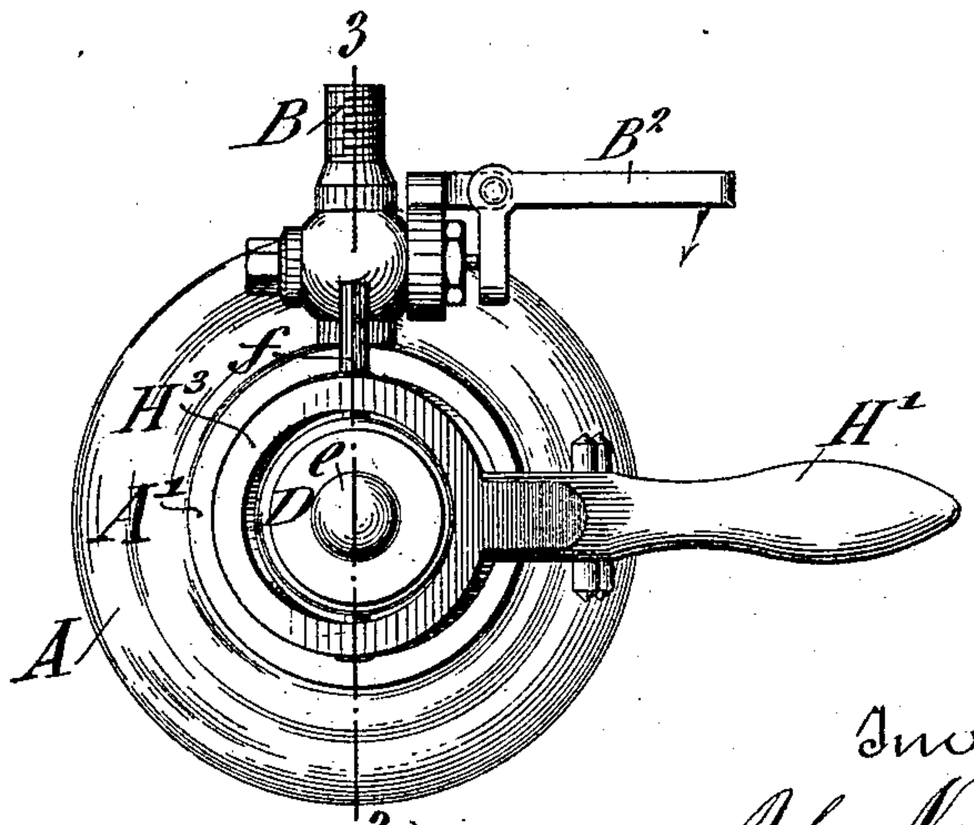

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Fig: 3.

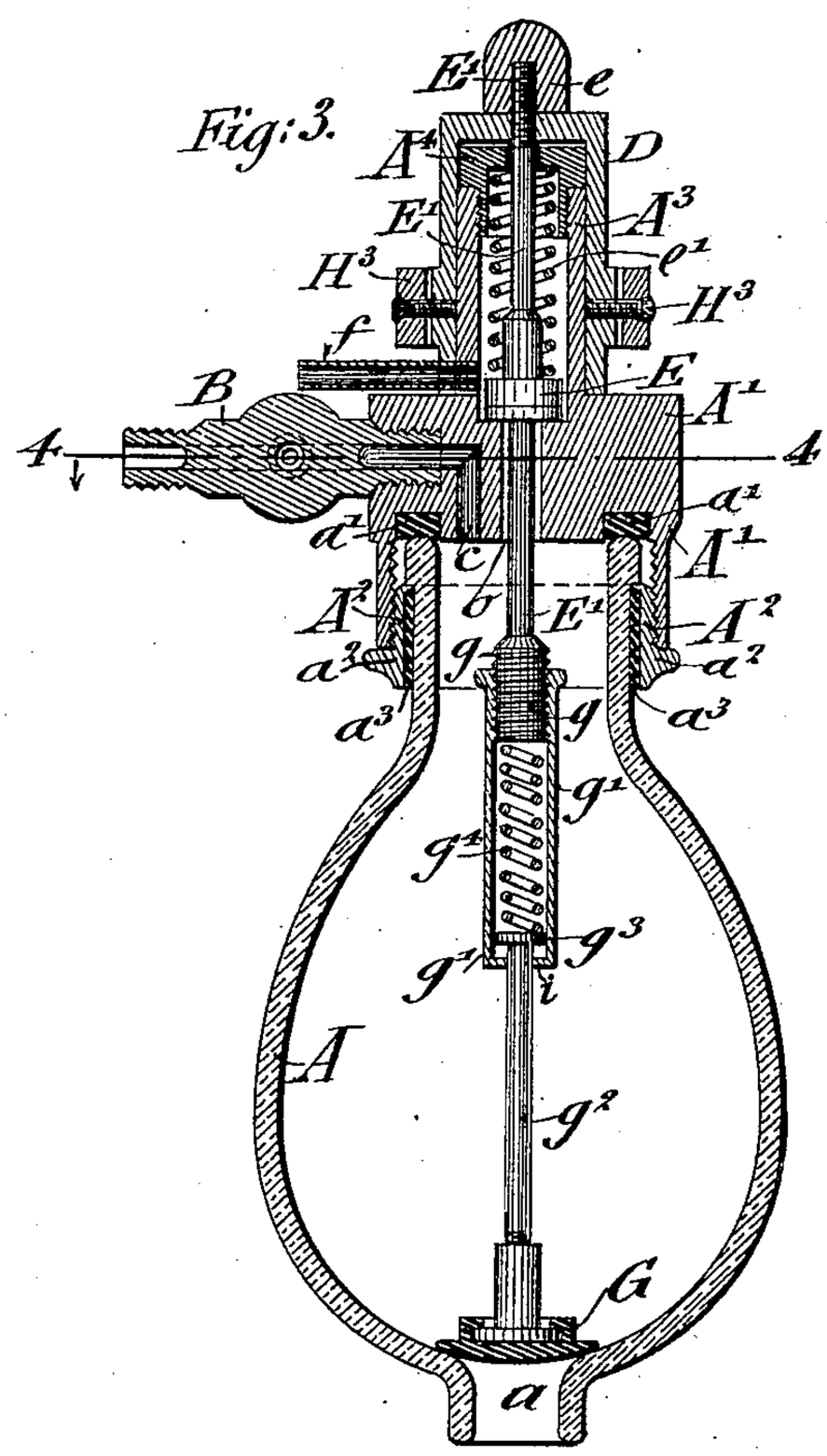
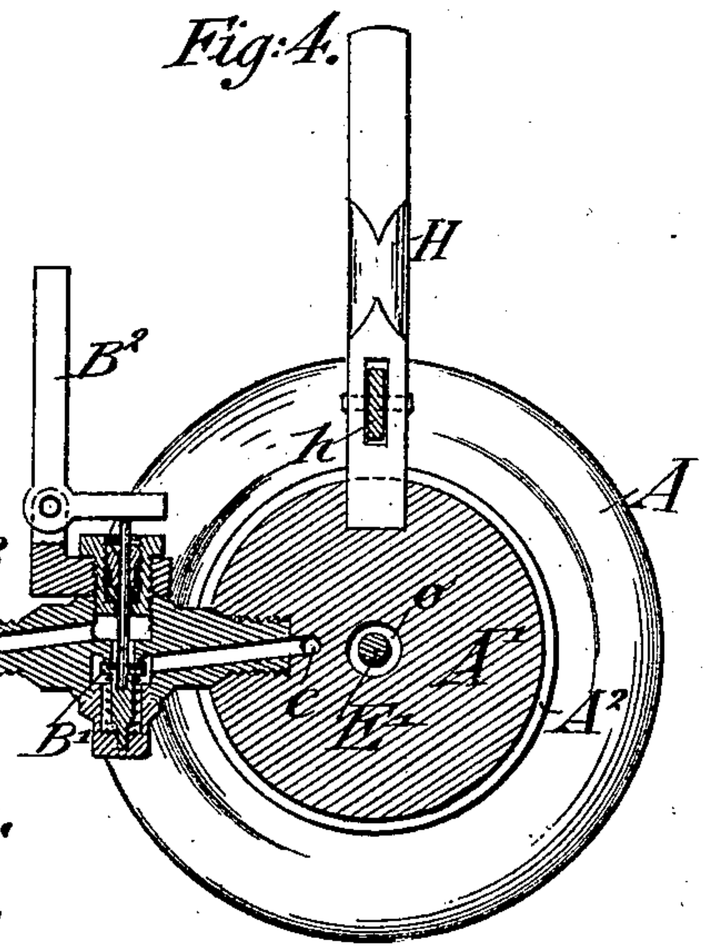


Fig: 4.



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DEVICE FOR DRAWING EFFERVESCENT LIQUIDS.

SPECIFICATION forming part of Letters Patent No. 680,499, dated August 13, 1901.

Application filed January 25, 1901. Serial No. 44,655. (No model.)

To all whom it may concern:

Be it known that I, JOHN NAGELDINGER, a citizen of the United States, residing in New York, borough of Manhattan, in the State of New York, have invented certain new and useful Improvements in Devices for Drawing Effervescent Liquids, of which the following is a specification.

This invention relates to certain improvements in the device for drawing off effervescent liquids for which Letters Patent of the United States were granted to me, No. 660,331, dated October 23, 1900, the improvements being designed with the view of utilizing the pressure-relief chamber also as a discharge-chamber, so that a separate discharge-nozzle is dispensed with and the construction of the device considerably simplified; and the invention consists of a device for dispensing effervescent liquids which comprises a pressure-relief chamber having a discharge-nozzle at its lower end, a socket for supporting said chamber at its upper end, said socket being provided with a liquid-supply channel and a pressure-relief channel, a valved supply-pipe connected with said supply-channel, a spring-actuated pressure-relief valve retained normally in position for closing the pressure-relief channel, a valve-chamber for said pressure-relief valve provided with a pressure-relief tube, a spring-actuated liquid-discharge valve, the spindle of which is connected with the spindle of the pressure-relief valve, a sliding casing guided on the chamber of the pressure-relief valve and connected with the upper end of the spindle of the pressure-relief valve, and means for operating successively the supply valve and the pressure-relief and discharge valves; and the invention consists, further, of certain details of construction and combinations of parts, which will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of my improved device for drawing effervescent liquids shown in section through the discharge-nozzle at the lower end of the pressure-relief chamber. Fig. 2 is a plan view of Fig. 1. Fig. 3 is a vertical central section of my improved apparatus on line 3 3, Fig. 2; and Fig. 4 is a horizontal section on line 4 4, Fig. 3.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents a pressure-relief chamber, which is preferably made of glass of suitable thickness to withstand the pressure of the effervescent liquid that is to be supplied to and drawn off from the same. The pressure-relief chamber A is preferably made of bulb shape and provided with a cylindrical neck at its upper end, which is supported in a socket A′. The chamber is provided at its lower end with a discharge-nozzle a. The upper end bears against an elastic packing-ring a', seated in an annular recess in the socket. The socket A′ is provided with an interior screw-thread that engages an exteriorly-threaded collar A^2, that is provided with a shoulder a^2, against which the lower end of the socket abuts, and the upper end of which is provided with an inwardly-bent flange that abuts against an exterior shoulder on the upper part of the neck of the pressure-relief chamber A, a packing-ring a^3 being interposed between the neck of the chamber and the collar A^2, so as to produce thereby a tight and reliable connection between the socket A′ and the chamber A. The socket A′ is connected by a valved supply-pipe B with a vessel or fountain containing the carbonated liquid under pressure, said supply-pipe being provided with a spring-actuated valve B′, that is opened by the pressure of a fulcrumed elbow-lever B^2 against the stem of the valve, which extends through a stuffing-box to the outside, as shown clearly in Fig. 4. The socket A′ is provided with a stationary handle H, which extends radially therefrom, as shown in Figs. 1, 2, and 4. A handle H′ is fulcrumed by an intermediate pivot-link h to the stationary handle, so that when the palm of the hand rests on the movable handle the fingers can readily grasp the stationary handle H and on pressing the handles together move the handle H′ toward the stationary handle H. The end of the fulcrumed handle H′ is provided with a circular enlargement or yoke H^3, that extends around and is pivoted to a cylindrical sliding casing D, that is closed at its upper end and guided on a cylindrical valve-chamber A^3 of the socket A′. The cylindrical valve-chamber A^3 is closed at its upper end by a screw-cap A^4, through

which and the sliding casing D passes the stem E′ of the pressure-relief valve E, which stem is screwed into the top of the casing D and tip *e* of the same, as shown in Fig. 3. A helical spring *e′* is interposed between the screw-cap A^4 and the pressure-relief valve E, said spring pressing the valve in downward direction on a central pressure-relief channel *o* in the socket A′, so as to keep said channel closed when the pressure-relief valve is in its normal position. The cylindrical valve-chamber A^3 is provided with a blow-off tube *f* above the socket A′, as shown in Figs. 2 and 3. The spindle E′ is extended in downward direction through the bore *o*, which bore is of larger diameter than the spindle, and is provided with an enlarged and screw-threaded end *g*, on which is screwed a cylindrical casing or sleeve *g′*, the lower end of which is guided on the stem g^2 of the discharge-valve G, which is of sufficient size to close the discharge-nozzle *a*. The upper end of the stem g^2 is provided within the sleeve *g′* with a cap or shoulder g^3, between which and the threaded end of the spindle E′ a helical spring g^4 is interposed, which presses the spindle g^2 in downward direction, so as to keep the discharge-valve normally in position for closing the discharge-nozzle, as shown in Figs. 1 and 3.

My improved apparatus for drawing effervescent liquids is operated as follows: The tumbler or other vessel into which the carbonated liquid is to be discharged is held in one hand below the nozzle *a*, while the other hand is used for operating the device. The palm of the hand is placed on the movable handle H, so that the fingers can grasp the handle B^2 of the supply-valve and move the same in the direction of the arrow shown in Fig. 2, thereby opening the supply-valve against the tension of its spring, so that immediately carbonated liquid is supplied from the fountain through the connecting-channel *c* in the socket A′ into the pressure-relief chamber, in which the liquid rises until an equilibrium of pressure is established between the pressure-relief chamber and the fountain. As soon as this occurs the handle of the supply-valve is released and the handle H grasped by the fingers, so as to produce the depressing of the handle H′, and thereby the lifting of the sliding casing D and the pressure-relief valve E against the tension of the spring *e′* of the latter, so that the pressure-relief valve is lifted and the excess of gas in the upper part of the pressure-relief valve blown off through the pressure-relief channel *o* and tube *f*. The discharge-valve is held in its normal closing position on the discharge-nozzle *a* of the pressure-relief chamber by the tension of the spring in the sleeve *g′* until the lower contracted end *i* of the sleeve abuts against the shoulder or cap g^3 of the stem g^2 and lifts the discharge-valve against the pressure of the liquid in the chamber A, so that the nozzle is opened and the liquid permitted to flow by gravity into the tumbler held below the same, air entering through the tube *f* and channel *o* into the chamber A above the descending liquid. The short distance between the shoulder g^3 and the lower end *i* of the sleeve allows for sufficient lifting of the pressure-relief valve, so that the blow-off of the excess of gas in the upper part of the chamber can take place before the discharge-valve is opened and the liquid discharged through the nozzle of the chamber. The blowing off of the surplus gas from the pressure-relief tube *f* and the discharge of the carbonated liquid from the chamber take place in quick succession, as the upward motion of the yoke of the movable handle produces the opening of the pressure-relief valve and the discharge-valve in quick succession, the escape of the gas being indicated by the slight noise which takes place immediately before the flowing of the liquid through the nozzle. When the tumbler is filled, the discharge is interrupted by releasing the movable handle, so that the pressure-relief and discharge valves are immediately returned by the tension of their respective springs into their normal positions on their respective valve-seats.

The pressure-relief chamber is by the construction described utilized as the discharge-chamber for the effervescent liquid, whereby the device is considerably simplified and the drawing off of carbonated liquid from the fountain without excessive foaming greatly facilitated.

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

1. The combination of a pressure-relief chamber having a discharge-nozzle at its lower end, a socket for supporting said chamber at its upper end, said socket being provided with a liquid-supply channel and a pressure-relief channel, a valved supply-pipe connected with said supply-channel, a spring-actuated pressure-relief valve retained normally in position for closing the pressure-relief channel, a valve-chamber for said pressure-relief valve, provided with a pressure-relief tube, a spring-actuated liquid-discharge valve, the spindle of which is connected with the spindle of the pressure-relief valve, a sliding casing guided on the chamber of the pressure-relief valve, and connected with the upper end of the spindle of the pressure-relief valve, and means for operating successively the supply-valve and the pressure-relief and discharge valves, substantially as set forth.

2. The combination of a pressure-relief chamber having a discharge-nozzle at its lower end, a socket for supporting said chamber at its upper end, said socket being provided with a liquid-supply channel and a pressure-relief channel, a valved supply-pipe connected with said supply-channel, a spring-actuated pressure-relief valve retained normally in position for closing the pressure-

relief channel a valve-chamber for said pressure-relief valve provided with a pressure-relief pipe, a spring-actuated discharge-valve, the spindle of which is connected with the spindle of the pressure-relief valve, a sliding casing on the chamber of the pressure-relief valve, a stationary handle on the supporting-socket, a movable handle connected with the sliding casing, and a fulcrumed handle for opening and closing the valved supply-channel, substantially as set forth.

3. The combination of a pressure-relief chamber having a discharge-nozzle at its lower end, a socket for supporting said chamber at its upper end, said socket being provided with a liquid-supply channel and a pressure-relief channel, a valved supply-pipe connected with said supply-channel, a spring-actuated pressure-relief valve retained normally in position for closing the pressure-relief channel a valve-chamber for said pressure-relief valve, provided with a pressure-relief tube, a spring-actuated liquid-discharge valve, a casing or sleeve attached to the stem of the pressure-relief valve and adapted to guide the spindle of the discharge-valve, a sliding casing guided on the chamber of the pressure-relief valve, and connected with the upper end of the spindle of the pressure-relief valve, and means for operating successively the supply-valve and the pressure-relief and discharge valves, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

JOHN NAGELDINGER.

Witnesses:

PAUL GOEPEL,

JOSEPH H. NILES.