

No. 650.428.

Patented May 29, 1900.

O. SMITH.

APPARATUS FOR AERATING LIQUIDS.

(Application filed Aug. 10, 1899.)

(No Model.)

FIG. 1.

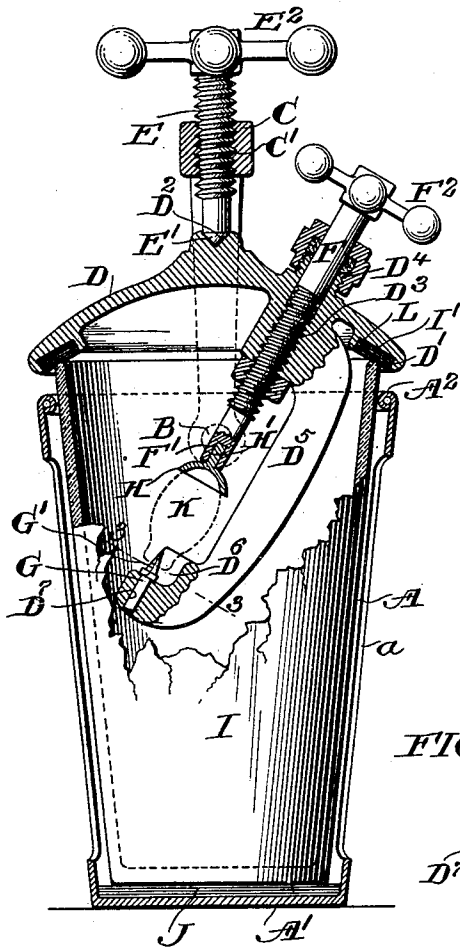


FIG. 2.

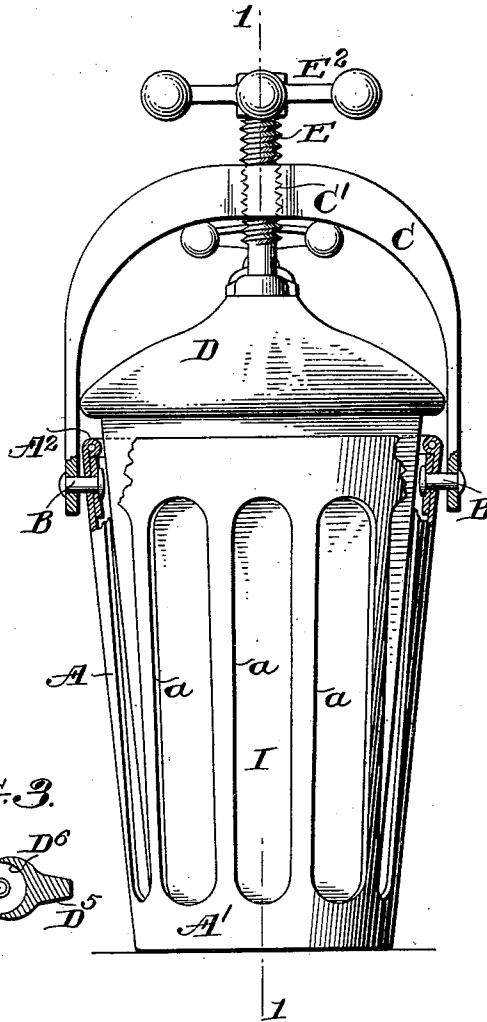
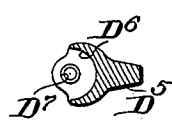


FIG. 3.



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APPARATUS FOR AERATING LIQUIDS.

SPECIFICATION forming part of Letters Patent No. 650,428, dated May 29, 1900.

Application filed August 10, 1899. Serial No. 726,742. (No model.)

To all whom it may concern:

Be it known that I, OBERLIN SMITH, a citizen of the United States of America, residing in Bridgeton, in the county of Cumberland, in the State of New Jersey, have invented certain new and useful Improvements in Apparatus for Aerating Liquids, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part thereof.

My invention relates to apparatus for aerating liquids by means of capsules containing highly-compressed or liquefied gases and which are perforated to permit the escape of the gas while inclosed in a receptacle containing the liquid to be aerated.

The object of my invention is to provide a simple and efficient apparatus for holding and charging the receptacle, and especially I have in view the aeration of liquid contained in tumblers of ordinary form.

The nature of my improvements will be best understood as described in connection with the drawings, in which they are illustrated, and in which—

Figure 1 is a vertical section through my apparatus and tumbler inclosed therein, taken as on the section-line 1 1 of Fig. 2. Fig. 2 is an elevation of the apparatus, the pivots between the holder and clamp being shown in section; and Fig. 3 is a cross-section taken on the line 3 3 of Fig. 1.

A indicates the holder, which is preferably of the frusto-conical shape of a tumbler, as shown, and preferably also formed with a series of openings, such as the elongated slots *a*, so that the tumbler and its contents can be seen through the sides of the holder.

A' indicates the bottom of the holder, upon which is preferably situated an elastic pad or false bottom, (indicated at J;) A², the top edge of the holder.

B B are pivots projecting trunnion-like from opposite sides of the top of the holder.

C is a clamp, preferably made U-shaped, as shown, and pivoted on the pivot or trunnion pins B B. It is formed with a threaded perforation C', in which screws the clamping-rod E, the thrusting end of which is indicated at E' and the handle for turning it at E².

D is the cover for the receptacle to be held

in the holder, preferably formed, as shown, with a gasket-holding recess D', inclined inward and upward and in which is situated an elastic gasket L. The top of the cover is provided with a recess D² to receive the thrust end of the rod E.

D³ is a boss through which and the top of the cover is formed a threaded perforation, as shown, for the threaded thrust-rod F, the stuffing-box D⁴ being provided to prevent the escape of gas through this perforation.

D⁵ is a downwardly and preferably inwardly inclined arm having its lower end inclined upwardly and shaped to form a capsule-holding recess, as indicated at D⁶.

D⁷ indicates a perforation in the end of the capsule-holder, which is adapted to receive the socket G of a perforating-pin G'. The thrust-rod F is formed with a similar perforation F' to receive the socket H of a cap-piece H', and it is convenient and desirable that the sockets F' and B⁷ should be made of similar size and shape, so that the perforating-pin and cap can be reversed when it is desired.

F² indicates the handle by which the thrust-rod F is turned.

I indicates the tumbler in position in the holder A, its rim or edge I' projecting above the top of the holder, as shown.

In practice the tumbler I is inserted in the holder, and the cap D, which is preferably dome-shaped and is preferably also entirely removable from the rest of the apparatus, is placed upon the top of the tumbler, with its inclined elastic gasket L resting on the edge. Before placing the cover in position, however, a gas-holding capsule K is placed in the holder, as shown in Fig. 1, and the thrust-rod F forced downward for a sufficient distance to insure against the escape of the capsule from the holder. The cover being in position, the clamp C is swung upward until the thrust-rod E comes above the socket D², and said thrust-rod is then turned by the handle E pressing down against the cover and clamping the tumbler between the gasket L and the elastic bottom J of the holder. The tumbler being then tightly sealed, the handle F² is turned to thrust the rod F inward, the cap H' pressing the capsule K against the perforating-pin G', which forces its way into the capsule and permits the escape of gas into the tumbler.

I prefer that the perforation shall be at the bottom of the capsule, so that the gas will escape downward into the liquid; but this is not essential. After the liquid in the tumbler has become thoroughly aerated, which may be facilitated by shaking the apparatus, the thrust-rod E is unscrewed, the clamp then swung to one side, and the cover D removed, whereupon the tumbler containing the fully-charged liquid can be withdrawn from the holder.

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

1. A holder A adapted to hold a liquid-receptacle, in combination with a removable cover for the receptacle having a capsule-holding device projecting from its under face, a perforating device arranged to act on a capsule in the holder and actuated from the outside of the cover and a clamp arranged to act on the holder and cover to draw the cover against the mouth of the receptacle.

2. A holder A adapted to hold a liquid-receptacle in combination with an elastic pad at the bottom thereof, a removable cover for the receptacle having a capsule-holding device projecting from its under face, a perforating device arranged to act on a capsule in the holder and actuated from the outside of the cover and a clamp arranged to act on the holder and cover to draw the cover against the mouth of the receptacle.

3. A tumbler-holder A in combination with a cover D having an inwardly and upwardly inclined elastic gasket L set in its rim, an inclined capsule-holding arm D⁵ secured to the inside of the cover so as to project into the tumbler, a capsule-perforating device actuated from the outside of the cover and a clamp acting on the holder and cover to clamp the latter on the edge of the tumbler.

4. A tumbler-holder in combination with a cover D having an inwardly and upwardly inclined elastic gasket L set in its rim, an inclined capsule-holding arm D⁵ secured to the inside of the cover so as to project into the tumbler, a capsule-perforating device actuated from the outside of the cover and a swinging clamp pivoted on the holder and arranged to act on the cover.

5. A tumbler-holder A having openings as a in its sides in combination with a cover D having an inwardly and upwardly inclined elastic gasket L set in its rim, an inclined capsule-holding arm D⁵ secured to the inside of the cover so as to project into the tumbler, a capsule-perforating device actuated from the outside of the cover and a clamp acting on the holder and cover to clamp the latter on the edge of the tumbler.

6. A capsule-holder, as D⁵ D⁶, having a perforation D⁷ in combination with a thrust-rod, as F, having a perforation, as F', lying opposite to perforation D⁷, a perforating-pin, as G', having a socket G and a cap, as H', having a socket H said sockets being adapted to fit into either perforation D⁷ or F'.

7. A holder A adapted to hold a tumbler-like liquid-receptacle in combination with a cover D adapted to close the mouth of the tumbler or similar receptacle, an inclined arm D⁵ secured to the inside of the cover and having an upwardly-turned capsule-holding end D⁶, a thrust-rod F working at an incline through the cover and adapted to act against a capsule in the holder and a clamp arranged to act on the holder and draw the cover against the mouth of the receptacle.

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Witnesses:

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