(No Model.) J. W. TUFTS & C. ADAMI. 2 Sheets—Sheet 1.

APPARATUS FOR DISPENSING HOT SODA WATER.

No. 453,872. Patented June 9, 1891.

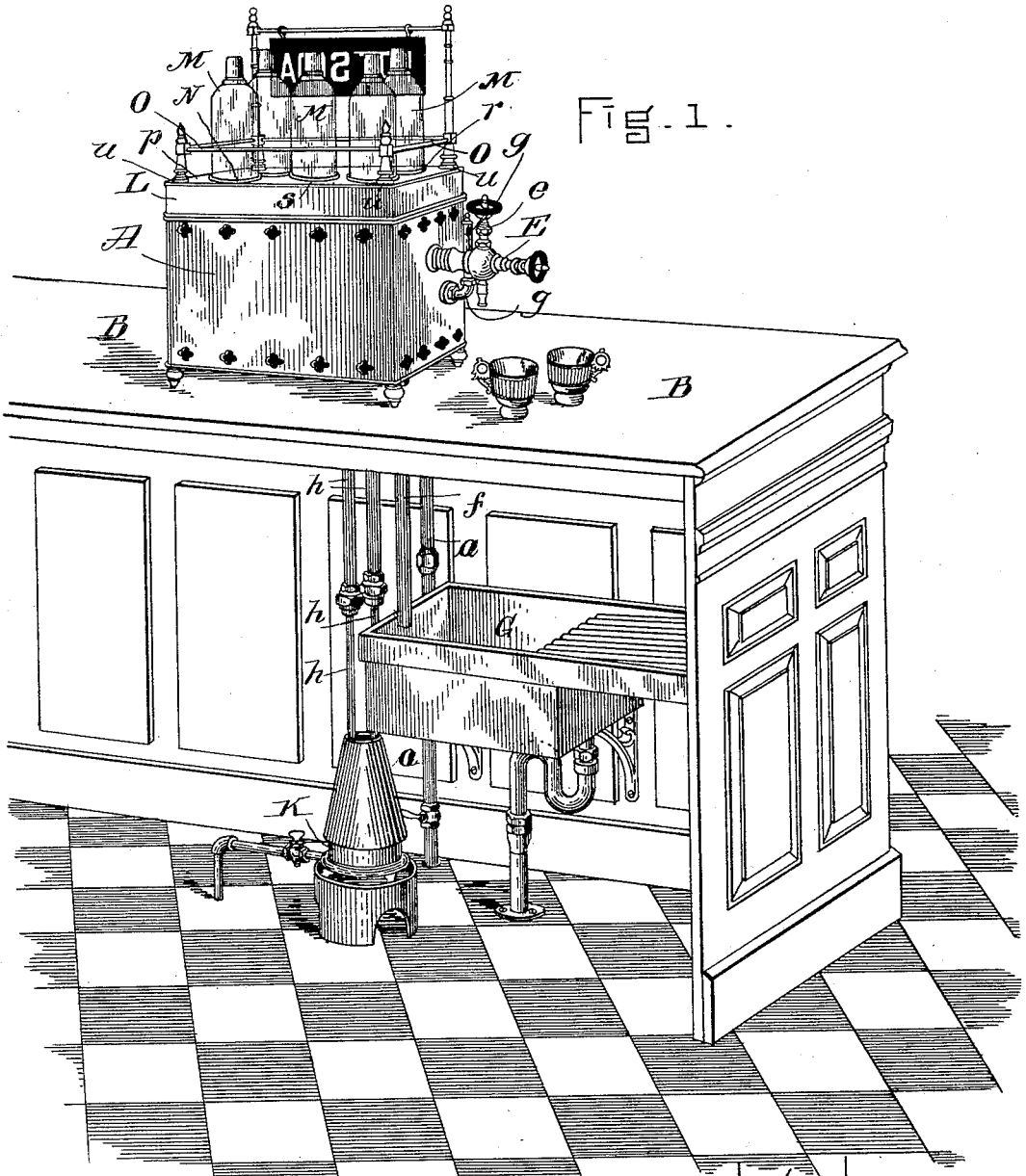

Fig. 1.

WITNESSES.

R. Henry Marsh.

Edwin W. Aiken.

INVENTORS.

James W. Tufts

Conrad Adami

By P. E. Tesdenmacher

Atty

(No Model.) 2 Sheets—Sheet 2.

J. W. TUFTS & C. ADAMI.

APPARATUS FOR DISPENSING HOT SODA WATER.

No. 453,872. Patented June 9, 1891.

Fig. 3.

Fig. 4.

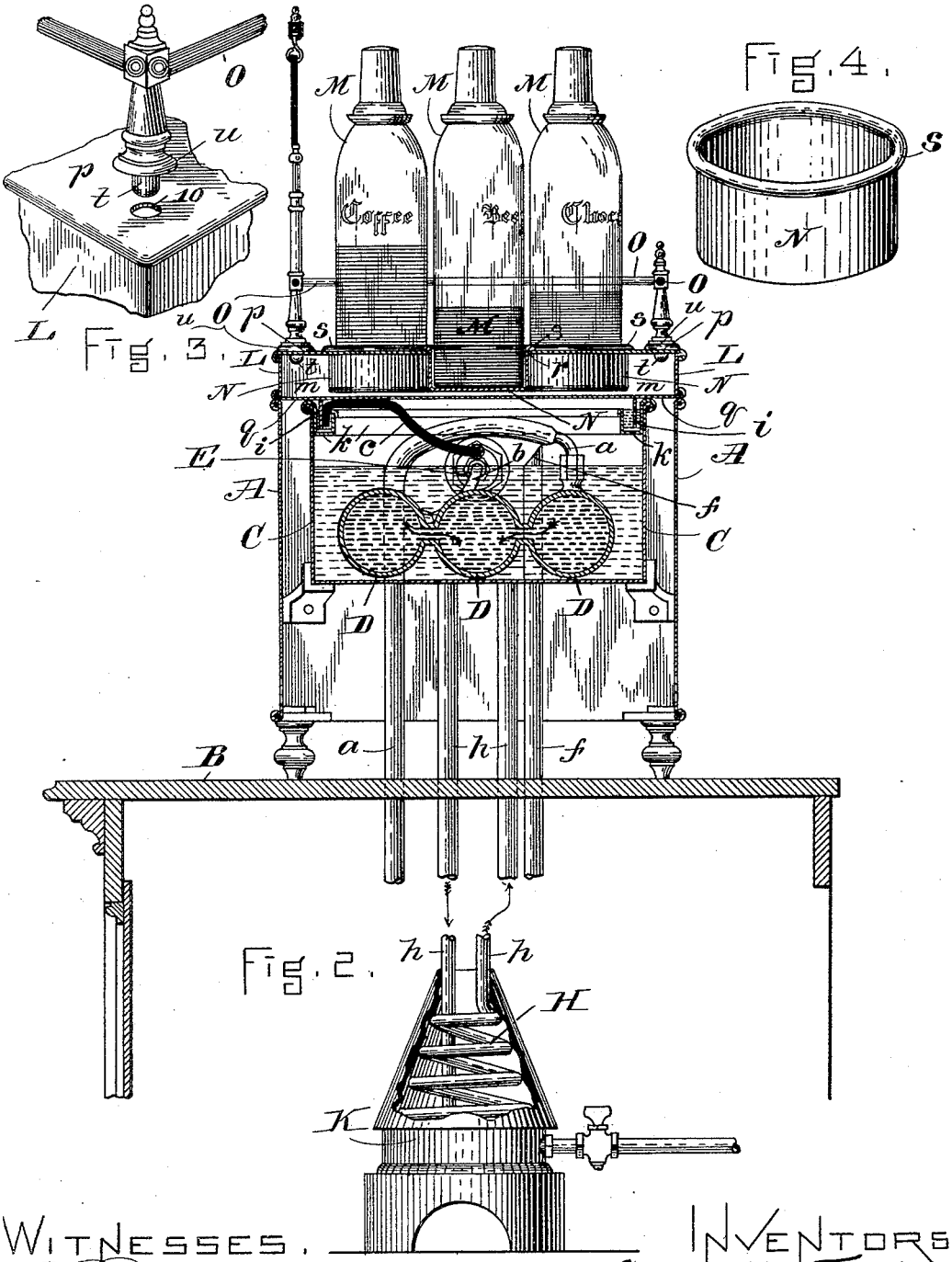

Fig. 1.

Fig. 2.

WITNESSES.

G. Henry Marsh.

Harry A. Aitken.

INVENTORS.

James W. Tufts

Conrad Adami

By R. Eickemeyer Jr. Atty

UNITED STATES PATENT OFFICE.

JAMES W. TUFTS, OF MEDFORD, AND CONRAD ADAMI, OF BOSTON, MASSACHUSETTS, ASSIGNORS TO SAID TUFTS.

APPARATUS FOR DISPENSING HOT SODA-WATER.

SPECIFICATION forming part of Letters Patent No. 453,872, dated June 9, 1891.

Application filed October 31, 1890. Serial No. 369,964. (No model.)

To all whom it may concern:

Be it known that we, JAMES W. TUFTS, of Medford, in the county of Middlesex and State of Massachusetts, and CONRAD ADAMI, of Boston, in the county of Suffolk and State aforesaid, citizens of the United States, have invented certain Improvements in Apparatus for Dispensing Hot Soda-Water, 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 perspective view of our improved hot-soda-water apparatus. Fig. 2 is an enlarged vertical section of the same; Figs. 3 and 4, details to be referred to.

In the ordinary hot-soda-water apparatus, as heretofore constructed, the metallic tank or receptacle containing the water in which are immersed the cylinders or heaters through which the soda-water passes to the draft-cock is usually heated by the flame of a gas-jet or oil-stove acting directly on the bottom of said tank, said gas-jet or stove being located within the lower portion of the outer metallic casing of the apparatus and between the marble counter and the tank to be heated. This arrangement is, however, open to many objections, among which may be enumerated the following: Soot soon accumulates in thick layers upon the bottom of the tank, which interferes with and prevents the rapid transmission of heat to the water in said tank. The soot drops down and soils and stains the marble slab and adjacent surfaces, and a disagreeable odor arises from the stove or burner, due to a lack of air and consequent imperfect combustion, while the regulating of the flame is often neglected on account of its being concealed from view and the inconvenience of reaching it. The slab is liable to become cracked by the heat, which also discolors the outer metallic casing and tarnishes the silver plating. Another serious difficulty in hot-soda-water apparatus arises from the fact that the sirup in the cans, as hitherto arranged within the casing, becomes too highly heated, which causes it to rapidly evaporate and thicken, when it will cease to flow freely from the faucets and will soon become fermented and spoiled. It is therefore desirable in this class of apparatus to only moderately warm the sirups, while at the same time the water passing to the draft-tube under pressure should be heated to a high temperature.

Our invention has for its object to greatly improve the construction of this class of apparatus, whereby all of the above-mentioned difficulties and objections are overcome; and it consists in the combination of an outer casing having a removable top or cover, an interior tank or bath placed within said casing and adapted to contain water under no pressure, circulating-pipes connected with the bottom of the tank and adapted to extend down beneath the counter, said pipes being provided with a coil or portion arranged upon a stove or heating device, and cylinders or heaters connected with the draft-cock and adapted to contain water under pressure, said cylinders or heaters being arranged within said tank or bath and being adapted to be heated by the water therein, which remains constantly within said tank and its circulating-pipes and coil, and serves merely as a vehicle for transmitting heat to said cylinders or heaters, whereby the most perfect results are attained without any of the objections incident to the method of heating hitherto in use.

Our invention also consists in certain novel features in the construction of the top or cover of the apparatus, whereby it is adapted to hold a number of sirup bottles or receptacles in such manner that it will be impossible for them to become unduly heated, thereby effectually preventing the sirup from thickening, fermenting, and spoiling, as hereinafter more particularly set forth.

In the said drawings, A represents the outer casing of the apparatus, which is preferably composed of planished copper or other suitable sheet metal, and is adapted to be placed upon the marble or other counter B. This casing A is provided with an interior metallic box or tank C, Fig. 2, adapted to contain water to be heated in a manner to be presently described. Within this tank C are placed the cylinders or heaters D, through which the water passes from the fountain or source of supply to the draft-cock E, suitable inlet and outlet pipes *a b* being provided, as usual, through which the water enters and

leaves the said cylinders or heaters, and as these cylinders or heaters are immersed in the hot water contained in the tank the water under pressure passing through them to the draft-cock is heated to the required temperature without the evolution of steam within said heaters, danger of explosion being thus avoided.

The tank C is filled by means of a suitable inlet-pipe *c*, which is connected with a passage (not shown) in the draft-cock E, controlled by the upper valve *e*, and a suitable overflow-pipe *f* is provided, through which the waste water is conducted into a sink G, Fig. 1, or other receptacle placed beneath the counter B, thus preventing the water in the tank from rising above the desired level. The height of the water in the said tank or water bath is indicated at all times by a water-gage *g*, secured to the outer casing A.

The water in the tank C is heated by means of circulating-pipes *h h*, the upper ends of which enter the bottom of the tank, as seen in Fig. 2, while at the lower ends of these pipes is formed a coil H, which is arranged upon a gas or oil stove K or other suitable heater placed upon the floor beneath the counter, where it can be conveniently reached to regulate the flame or heat or for other purposes, and when in this position it is out of the way and sufficiently far removed from the counter to prevent any possibility of the latter becoming cracked or otherwise injuriously affected by the heat. Furthermore, by this construction and arrangement of parts, which admits of the stove being placed upon the floor, the overheating and discoloring of the metallic outer casing, and the tarnishing of the silver plating is prevented, while no soot is deposited on the under side of the tank C or upon the marble counter, as heretofore, and the soiling or staining of the marble and surrounding surfaces is thus entirely avoided, which is a very important advantage. Furthermore, the heat is transmitted uniformly to the water in the tank C instead of being interfered with by an accumulation of soot, as with the old construction, and as the stove is placed in an open and accessible position beneath the counter, instead of within the lower portion of the outer metallic casing of the apparatus, as heretofore, the unpleasant odor, due to lack of air and consequent imperfect combustion, is avoided, as well as the liability of neglecting to regulate the flame, which often occurred with the old construction on account of the difficulty of viewing it and the inconvenience of gaining access to the stove or burner.

The casing A is provided with a removable top or cover L, having a vertical flange *i* on its under side around the edge, which projects down into a U-shaped groove *k*, formed around the upper edge of the tank C, an ordinary water-joint being thus formed, making the apparatus steam-tight. The steam which rises from the water in the tank C is allowed to escape therefrom through the waste-pipe *f*, within which it is condensed, the water dropping into the sink or receptacle G. The groove *k* of the water-joint is supplied with water from the inlet-pipe *c*, controlled by the valve *e*, thereby avoiding the necessity of removing the cover L, which would allow the steam to escape.

The cover L is made double with an air-space *m* between the two walls or plates *p q*, the upper wall *p* being provided with apertures *r* for the reception of the lower ends of the sirup bottles or receptacles M. In each of the apertures *r* is fitted a removable cup N, (seen detached in Fig. 4,) which is provided at its upper edge with a flange *s*, which rests on the top of the outer plate *p* and supports the cup with its bottom out of contact with the lower wall *q*, as seen in Fig. 2. These cups form sockets for holding the sirup-bottles M in such manner as to prevent them from being accidentally dislodged or knocked off from the top of the apparatus, which would be liable to occur if they merely rested on its upper surface. The cups also serve to catch any drip which may run down the outsides of the sirup-bottles, and when required to be cleansed these cups can be easily lifted out of the apertures *r*.

By constructing the cover L of the apparatus, as described, in such manner as to safely hold or support the sirup-bottles it will be obvious that the latter are maintained in a position where their contents will become only moderately heated, while the water, under pressure, which passes to the draft-tube, can be highly heated in the water bath, as required, and consequently the rapid evaporation and thickening of the sirup and the overheating, which causes it to ferment and become spoiled, are avoided, which is not the case where the sirup is placed in cans arranged within the casing of the apparatus, as has hitherto been customary; and it will be obvious that our improved apparatus is on this account particularly well adapted for use in a store where the sale of hot soda is somewhat slow, as it enables the proper heat to be constantly maintained in the water bath without materially affecting or thickening the sirup in the bottles placed upon the top of the apparatus, the double wall and air-space of which allow a moderate heat only to be transmitted to the said bottles.

The cover L is provided around its edge with an ornamental railing O, which supports the sign "Hot Soda," and forms a guard around the sirup-bottles, thereby affording additional protection thereto to prevent them from being accidentally brushed off or dislodged from their sockets in the cover. The lower ends *t* of the corner-posts of this guard-rail below their flanges *u* are adapted to enter corresponding holes 10 in the top of the cover, as seen in Figs. 2 and 3, whereby the guard-rail is made removable to facilitate cleansing.

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

1. In a hot-soda-water apparatus, the combination of the outer casing having a removable top or cover, the interior tank or bath placed within said casing and adapted to contain water under no pressure, the circulating-pipes *h h*, connected with the bottom of the tank and adapted to extend down beneath the counter, said pipes being provided with a coil or portion arranged upon a stove or heating device, and the cylinders or heaters connected with the draft-cock and adapted to contain water under pressure, said cylinders or heaters being arranged within said tank or bath and being adapted to be heated by the water therein, which remains constantly within said tank and its circulating pipes and coil and serves merely as a vehicle for transmitting heat to said cylinders or heaters, substantially as set forth.

2. In a hot-soda-water apparatus, the combination, with the outer casing having an interior tank or receptacle provided with cylinders or heaters connected with the draft-cock and adapted to contain water under pressure, of a removable top or cover provided with apertures or sockets for receiving and holding the sirup bottles or receptacles, whereby their contents are kept warm without becoming unduly heated, substantially as described.

3. In a hot-soda-water apparatus, the combination, with the outer casing, its interior tank, and the cylinders or heaters connected with the draft-cock and adapted to contain water under pressure, of the removable top or cover L, provided with apertures for the sirup-bottles, and the removable cups fitting into said apertures and adapted to receive and hold the sirup bottles or receptacles, substantially as described.

4. In a hot-soda-water apparatus, the combination, with the outer casing and its interior tank or receptacle provided with cylinders or heaters connected with the draft-cock and adapted to contain water under pressure, of the removable cover L, having a double top with an air-space between the upper and lower walls, the upper wall or plate having apertures provided with removable cups or sockets for receiving and holding the sirup bottles or receptacles, substantially as set forth.

5. In a hot-soda-water apparatus, the combination of the outer casing A and its removable top or cover L, provided with apertures or sockets for the reception of the sirup-bottles, the interior tank or receptacle C, with its cylinders or heaters D connected with the draft-cock and adapted to contain water under pressure, and the circulating-pipes *h h*, adapted to extend down beneath the counter and having a coil or portion arranged upon a stove or heater, all operating substantially as described.

6. In a hot-soda-water apparatus of the character described, the combination, with the outer casing and its removable cover L, provided with apertures or sockets for the reception of the sirup-bottles, of the safety guard-rail O, having studs or projections *t* fitting into corresponding holes in the cover L, whereby it may be readily removed or dropped into place, substantially as set forth.

Witness our hands this 25th day of October, A. D. 1890.

JAMES W. TUFTS.
CONRAD ADAMI.

In presence of—
P. E. TESCHEMACHER,
JOHN W. BURNHAM.