No. 692,292. Patented Feb. 4, 1902.

S. A. JACKSON & L. LANG.

APPARATUS FOR SUPPLYING AERATED LIQUIDS ON DRAFT.

(Application filed Aug. 23, 1901.)

(No Model.) 2 Sheets—Sheet 1.

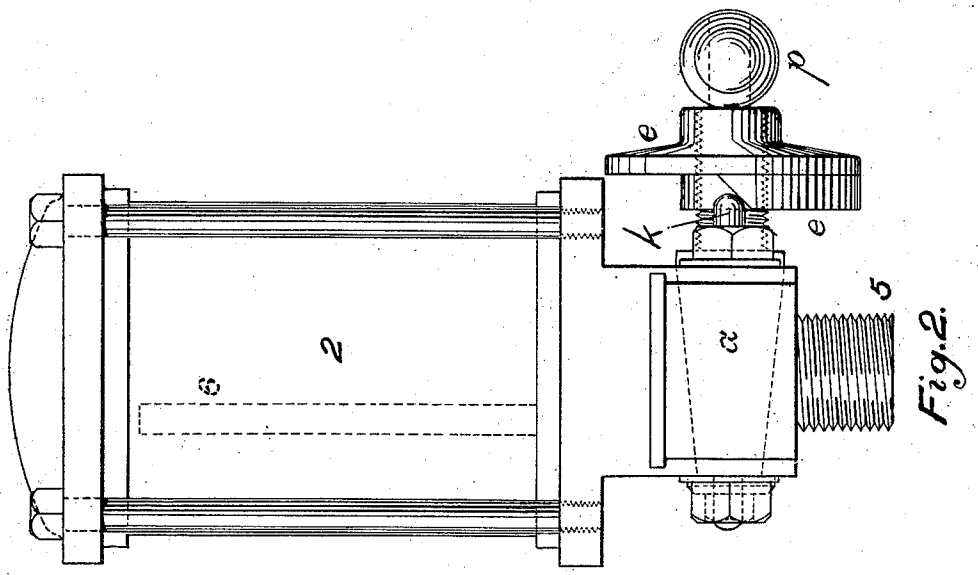


Fig. 2.

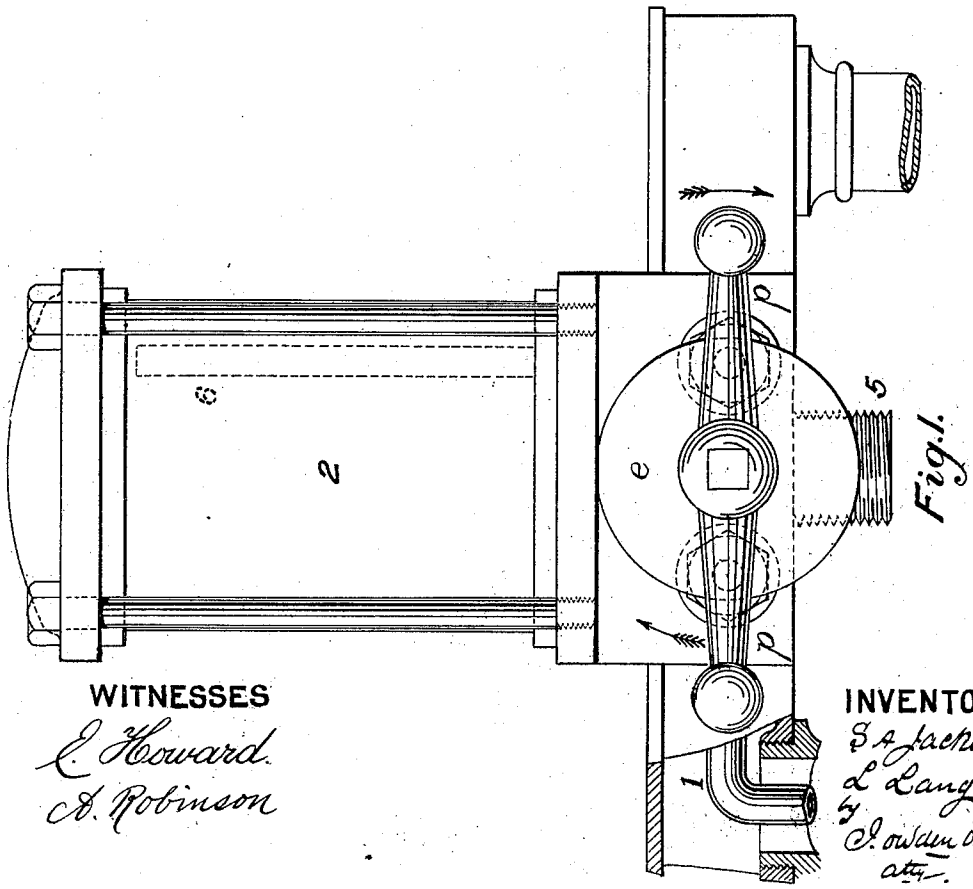


Fig. 1.

WITNESSES

E. Howard.

A. Robinson

INVENTORS.

S. A. Jackson

L. Lang

by O'Gorman & O'Brien

Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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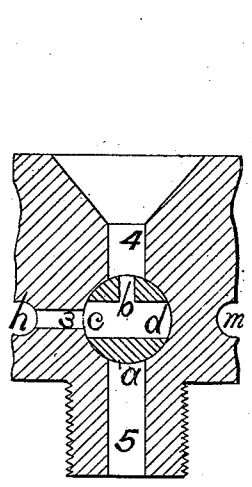


Fig. 5.

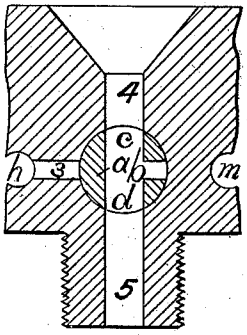


Fig. 6.

Fig. 3.

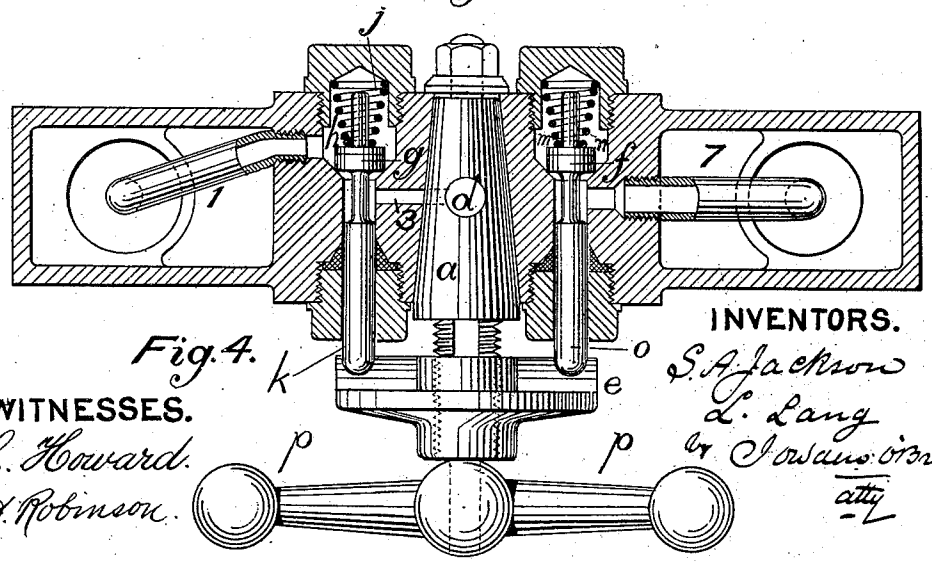


Fig. 4.

WITNESSES.

E. Howard.

A. Robinson.

INVENTORS.

S. A. Jackson

L. Lang

by Howson & Sons

atty

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

SYDNEY A. JACKSON, OF HEATON CHAPEL, AND LOUIS LANG, OF OLD TRAFFORD, MANCHESTER, ENGLAND.

APPARATUS FOR SUPPLYING AERATED LIQUIDS ON DRAFT.

SPECIFICATION forming part of Letters Patent No. 692,292, dated February 4, 1902.

Application filed August 23, 1901. Serial No. 73,062. (No model.)

To all whom it may concern:

Be it known that we, SYDNEY ALBERT JACKSON, a resident of Heaton Chapel, and LOUIS LANG, a resident of Old Trafford, Manchester, in the county of Lancaster, England, subjects of the King of England, have invented certain new and useful Improvements in Apparatus for Supplying Aerated Liquids on Draft, of which the following is a specification.

This invention relates to apparatus for supplying aerated liquids on draft and from a bulk supply contained in a suitable reservoir or other container and in which an auxiliary or intermediate vessel is used to reduce the pressure before delivery into the glass or other receptacles for drinking; and its object is to more effectually regulate the flow of the liquid and to secure perfectly tight fitting valves. It will be fully described with reference to the accompanying drawings.

Figure 1 is a front elevation of the apparatus; Fig. 2, a side elevation of same; Fig. 3, a vertical sectional elevation; Fig. 4, a horizontal section through the valves; Fig. 5, a vertical section showing position of main valve for filling the vessel 2; Fig. 6, a vertical section showing position of main valve for discharging the liquor from vessel 2.

The aerated liquor under pressure is supplied by the supply-pipe to the glass or other vessel 2 through the passages 3 and 4 and is discharged through the passage 4 and outlet-passage 5. The compressed air is allowed to pass from the vessel 2 through the air-pipe 6 and exhaust-pipe 7, and during the discharge of the liquids from the vessel 2 air is admitted to the top of the vessel 2 by the same pipes 7 and 6. The liquor is first admitted to and then discharged from the vessel 2 by a three-way cock or valve *a*, with ports or passages *b*, *c*, and *d*, and on the spindle of the cock or valve *a* is placed a double cam *e*, which is rotated with it and which operates alternately two tappet or mushroom valves *f* and *g*. The valve *g* governs the supply of liquor under pressure from the main supply. It is placed in the chamber *h* and is held closed, as shown, by the spring *j* and the pressure of the liquor upon it until opened by the cam *e* pressing the spindle *k* inward. The valve *f* governs the exhaust and inlet of air from and to the vessel 2. It is placed in the chamber *m* and is held closed, as shown, by the spring *n* and any pressure of air that may be behind it until opened by the cam *e* pressing spindle *o* inward.

The apparatus is operated by turning the wheel or handle *p* on the spindle of the cock or valve *a*, and the cam *e* is so placed and arranged relatively to the valve *a* that in its normal position when the apparatus is not being used both valves *g* and *f* are closed, as shown in Fig. 4, and, further, the cam *e* is of such a shape that both valves *g* and *f* cannot in any position be open at the same time. In the position shown in Figs. 3 and 4 of the drawings the apparatus is inoperative by reason of both valves *g* and *f* being closed and the vessel 2 is open to the atmosphere through the passages 4 and 5 and the passages *c* and *d* in the cock. When it is desired to draw off some of the liquid the main or three-way cock *a* is turned by the handle *p* until the passages *c* and *d* are across the chamber, Fig. 5, the end of *d* being closed and *c* open to the inlet-passage 3, and the passage *b* is open to the passage 4, leading into the vessel 2. The cam *e* engages the spindle *k* of the supply-valve *g* and opens the valve, permitting the liquor to flow from the supply-pipe 1 into the vessel 2 through the valve-chamber *h* and through the passages 3, *c*, *b*, and 4 until the vessel 2 is filled. When sufficient liquor has flowed into the vessel 2 or when an equilibrium has been established between the pressure in the reservoir and the vessel 2, the handle *p* is further rotated, turning the cock *a* and cam *e*. The cam first releases the valve *g* and permits it to close and then engages the spindle *o* and opens the valve *f* in the chamber *m*. This permits the air compressed above the liquor in the vessel 2 to escape through the passages 6 and 7 and brings it into equilibrium with the atmospheric pressure. The cock *a* is further turned around, while the valve *f* remains open, bringing the passages *d* and *c* into line with the passages 4 and 5 to discharge the liquor from the vessel 2. Air passes back through the valve *f* and passages 7 and 6 to replace the liquor as it is drawn off. Instead

of rotating the handle p and valve a always in one direction, they may be rotated part of a revolution and then back again the next time a supply of the liquor is required. In this way the liquor is drawn off without undue waste or loss of effervescence or splashing and in a sparkling condition.

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

1. In apparatus for supplying aerated liquor on draft from bulk, the combination with a supply-pipe 1, a containing vessel 2, and inlet and outlet passages thereto, and an air-passage 6, to admit air to and permit of its escape from the containing vessel, of the three-way plug-valve a to admit and discharge the liquor, a casing in which the valve is fitted provided with ports h, 3 and 4, for the passage of the liquor into the vessel, and ports 4 and 5 for the discharge of the liquor, an auxiliary inlet-valve g closed by the action of a spring and held closed by the pressure of the liquor, which acts with the three-way valve a to admit the liquor, a spindle k projecting from such valve, a cam e on the spindle of the main valve a to operate the auxiliary valve g, and an air-valve f placed in the casing to permit of the escape and admission of air to the containing vessel, closed by a spring and opened by the same cam, substantially as described.

2. In apparatus for supplying aerated liquor on draft from bulk, the combination with a supply-pipe 1, a containing vessel 2, and inlet and outlet passages thereto, and an air-passage 6 to admit air to and permit of its escape from the containing vessel, and a plug-valve a which acts to admit the liquor to the containing vessel and discharge it therefrom, of the admission-valve g held to its seat by the pressure of the liquor to admit the liquor to the plug-valve a, the air-valve f to discharge and admit air to the vessel 2, and the single cam e placed on the spindle of the main valve a to open both valves g and f substantially as described.

3. In apparatus for supplying aerated water on draft from bulk, the combination with a containing vessel 2, inlet-pipe 1, valve g provided with a spindle k closed by pressure and opened by a cam, to control the passage of the liquor, air-tubes 6 and 7 for drawing off and admitting air to the containing vessel, valve f provided with spindle o placed therein to open and close same, of a plug-valve a with three-way passages through which the liquor is admitted to and discharged from the vessel 2, and a cam e placed upon the spindle of the valve a to open in turn the valves g and f, substantially as described.

4. In apparatus for supplying aerated water on draft from bulk, the combination with a containing vessel 2, inlet-pipe 1, and air-discharge pipes 6 and 7, of a casing provided with three valve-chambers, and passages leading from the pipes 1 to the vessel 2, from the vessel 2 to the discharge, and from the tube 6 to the tube 7, a three-way plug-valve a placed in one chamber to admit and discharge the liquid, a projecting spindle and operating-handle thereon, an admission-valve g placed in the chamber h to control the inlet-passage 3, a spindle k projecting therefrom, an air-valve placed in the chamber m to admit or exhaust air from the vessel 2, a spindle o projecting therefrom, and a cam e in the spindle of valve a to act upon the spindles k and o and operate the valves g and h simultaneously with the main valve a, substantially as described.

In witness whereof we have hereunto signed our names, in the presence of two subscribing witnesses, this 13th day of August, 1901.

SYDNEY A. JACKSON.
LOUIS LANG.

Witnesses:
J. OWDEN O'BRIEN,
B. LATHAM WOODHEAD.