

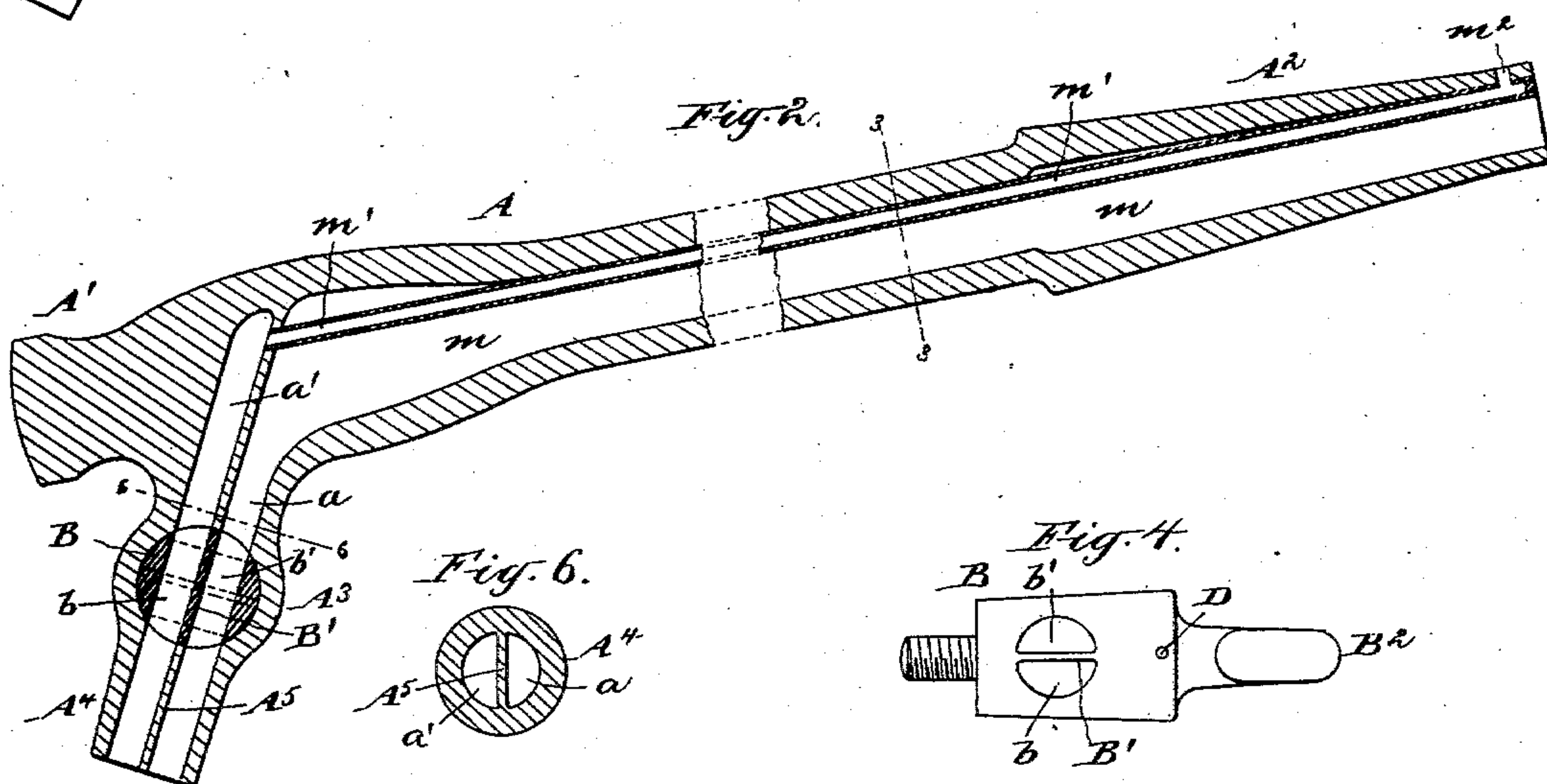
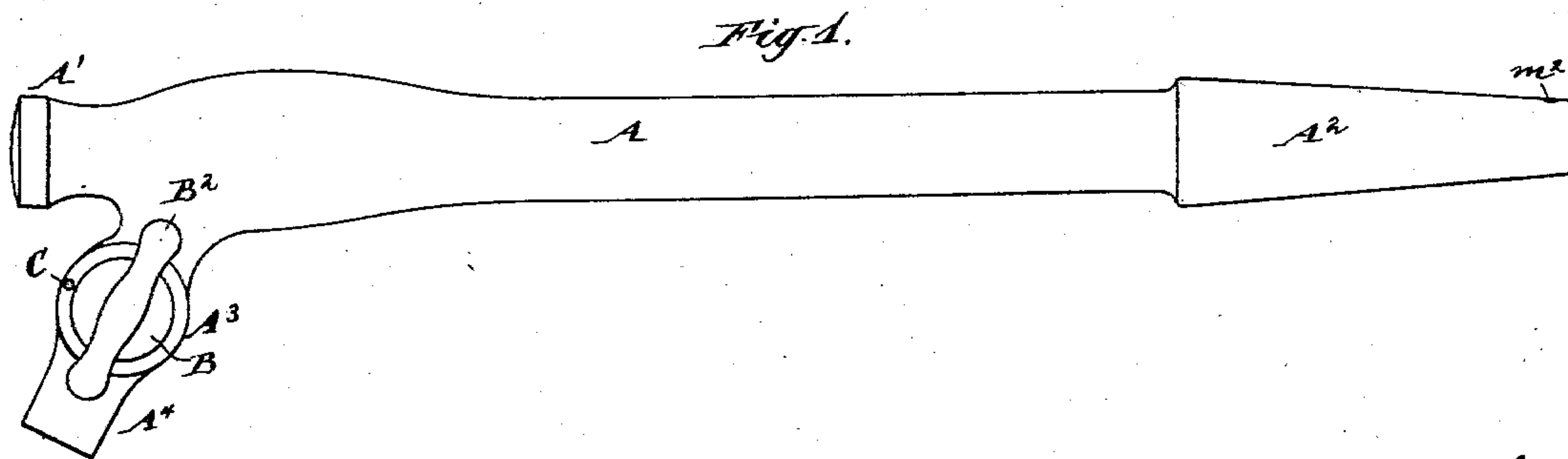
No. 629,327.

Patented July 25, 1899.

L. BARGER.
VENTING FAUCET.

(Application filed Oct. 10, 1898.)

(No Model.)



Witnesses:
Geo. W. Case, Jr.
P. E. Collins

Inventor:
Lucas Barger,
by his attorney
Charles R. Searle.

UNITED STATES PATENT OFFICE.

LUCAS BARGER, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND WILLIAM H. VAN TASSEL, OF SAME PLACE.

VENTING-FAUCET.

SPECIFICATION forming part of Letters Patent No. 629,327, dated July 25, 1899.

Application filed October 10, 1898. Serial No. 693,075. (No model.)

To all whom it may concern:

Be it known that I, LUCAS BARGER, a citizen of the United States, residing in New York city, in the county and State of New York, have invented a certain new and useful Improvement in Venting-Faucets, of which the following is a specification.

The invention relates to that class of faucets in which the air required to permit the flow of liquid is introduced to the keg or other receptacle through passages contained in the faucet. A serious objection to faucets of this general description lies in the uncertainty of their action, especially in starting the inflow of air when the plug is turned to draw the liquid and in the liability of the inflow to cease, and thus stop or retard the flow of liquid.

The object of my invention is to provide a faucet in which the above difficulties will be avoided or overcome and in which the inflow of air shall commence promptly and allow a continuous and uniform stream of liquid to be drawn so long as the plug is turned to the open condition.

The invention consists in providing an independent air-passage in addition to the liquid-passage through the faucet-body, spout, and plug, of relatively small cross-sectional area in the upper longitudinal portion of the faucet and of larger area in the lower portion, contained mainly in the spout and plug.

The accompanying drawings form a part of this specification and show the invention as I have carried it out.

Figure 1 is a side view of the improved faucet. The remaining figures are on a larger scale. Fig. 2 is a central longitudinal section. Fig. 3 is a transverse section taken on the line 3 3 of Fig. 2. Fig. 4 is a side elevation showing the valve-plug alone. Fig. 5 is an end view of the faucet. Fig. 6 is a cross-section on the line 6 6 in Fig. 2.

Similar letters of reference indicate the same parts in all the figures.

A is the body of the faucet, having the head A¹, tapered rear portion A², valve-plug chamber A³, and spout A⁴, similar in appearance to the ordinary beer-faucet. The spout A⁴ is divided into two passages or chambers *a a'*, of about equal cross-sectional area, by a thin vertically-extending partition or septum A⁵,

the chamber *a*, joining the main or liquid passage *m*, extending longitudinally of the body and serving as a channel for the liquid to be drawn. The chamber *a'* is closed at the upper end, but communicates by means of the small tube *m'*, lying within the passage *m*, with the interior of the receptacle through the orifice *m*² near the rear end of the body and is intended to allow air to pass freely when required from the spout to the receptacle and prevent the formation of a partial vacuum in the latter.

B is the valve-plug, tapered and ground to fit the valve-chamber A³, and has two passages *b b'*, corresponding to the chambers *a a'* and separated by the partition B¹. The plug is preferably located, well down in the spout and is equipped, as usual, with a handle B², washer B³, and retaining-nut B⁴. The passages are equal in area to the chambers and form continuous portions thereof when the plug is in the fully-open condition, and communication is completely stopped when the plug is turned a quarter-revolution to the closed condition.

The operation of the faucet, as I understand it, is as follows: Assuming the plug to stand in the closed condition, (shown in dotted lines in Fig. 1,) the passages *m m'* and the portions of the chambers *a a'* above the plug are filled with liquid. Upon turning the plug to the open position the liquid in those chambers immediately attempts to flow out. That contained in *a'* escapes freely, by reason of the large area and short length, and empties that chamber, allowing external air to enter freely to the junction with the smaller passage *m'*, while the liquid in *a* and *m* is restrained by the partial vacuum obtaining in the receptacle. It will be observed that at this instant in the operation the passage *m'* is still filled as far as the chamber *a'*, and the passage *m* and chamber *a* are filled practically throughout their entire length, and that there is a difference in the vertical heights of the columns of liquid thus formed, equal to nearly or quite the distance between the lower end of the spout and the point at which the passage *m'* enters the chamber *a'*. It is my belief that this difference induces a siphon-like action by which the column in *a m*

overcomes the resistance of that in m' , resulting in an immediate indrawing of the latter column and admission of air, with a corresponding release of the column in $a m$. The
 5 flow of air and liquid thus established is continued uninterruptedly until the supply is exhausted or the plug turned.

The action is practically instantaneous and is facilitated somewhat when the faucet lies
 10 in an inclined position, as indicated in Fig. 2, and which it commonly occupies when serving to draw beer or other liquid from the keg contained in the usual ice-box.

To enable the operator to easily determine
 15 the fully open and closed positions of the plug, I provide pins C C upon one end of the chamber A^3 to serve as stops, against one of which a pin D, set in the periphery of the plug, will strike at the extreme in either direction.
 20

Modifications may be made in the forms and proportions without departing from the principle of the invention. To secure the best action, it is important that the chamber a' be
 25 of sufficient size to empty quickly and that the passage m' be only large enough to supply the air required. Within such limits the proportions may be varied indefinitely. It is also important that the plug be set at a low point
 30 in the spout, so that there may be as much difference in the heights of the columns as is practicable when the operation is initiated. I have shown the passage m' as constructed by the insertion of a small tube tapped or
 35 otherwise secured in the septum A^5 ; but it may be cored or may be formed by drilling longitudinally through the metal of the body. This passage may open directly at the rear end; but I prefer the orifice m^2 at the upper
 40 face, for the reason that it is less exposed to the current of liquids entering the inner end of the faucet, and therefore allows the air to escape and rise more freely through the liquid in the receptacle.

I claim—

1. In a venting-faucet, the body and spout, 45
 a liquid-passage of large cross-sectional area extending therethrough, an air-passage of small cross-sectional area extending along the
 50 body, a chamber below having a cross-sectional area larger than said air-passage and in communication with the latter and the external air, and means for controlling the flow of liquid and air, all combined and arranged to serve substantially as and for the purposes
 55 herein specified.

2. In a venting-faucet, the body and spout, a liquid-passage of large cross-sectional area extending therethrough, an air-passage of small cross-sectional area extending at a high
 60 level along the body, and a chamber below of larger cross-sectional area in communication with said air-passage and the external air, in combination with a valve-plug having passages equaling in area and matching to
 65 said liquid-passage and air-chamber and adapted to control both, all substantially as and for the purposes herein specified.

3. The body A having the large passage m and orifice m^2 therein, the spout A^4 and septum A^5 forming the chambers a, a' of large
 70 cross-sectional area, in combination with the tube m' of small cross-sectional area extending longitudinally of the body and communicating between said chamber a' and said orifice, and the plug B located in said spout, having the partition B' forming the passages
 75 b, b' and adapted to control both of said chambers, all substantially as and for the purposes herein specified. 80

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

LUCAS BARGER.

Witnesses:

CHARLES R. SEARLE,
 M. J. H. FERRIS.