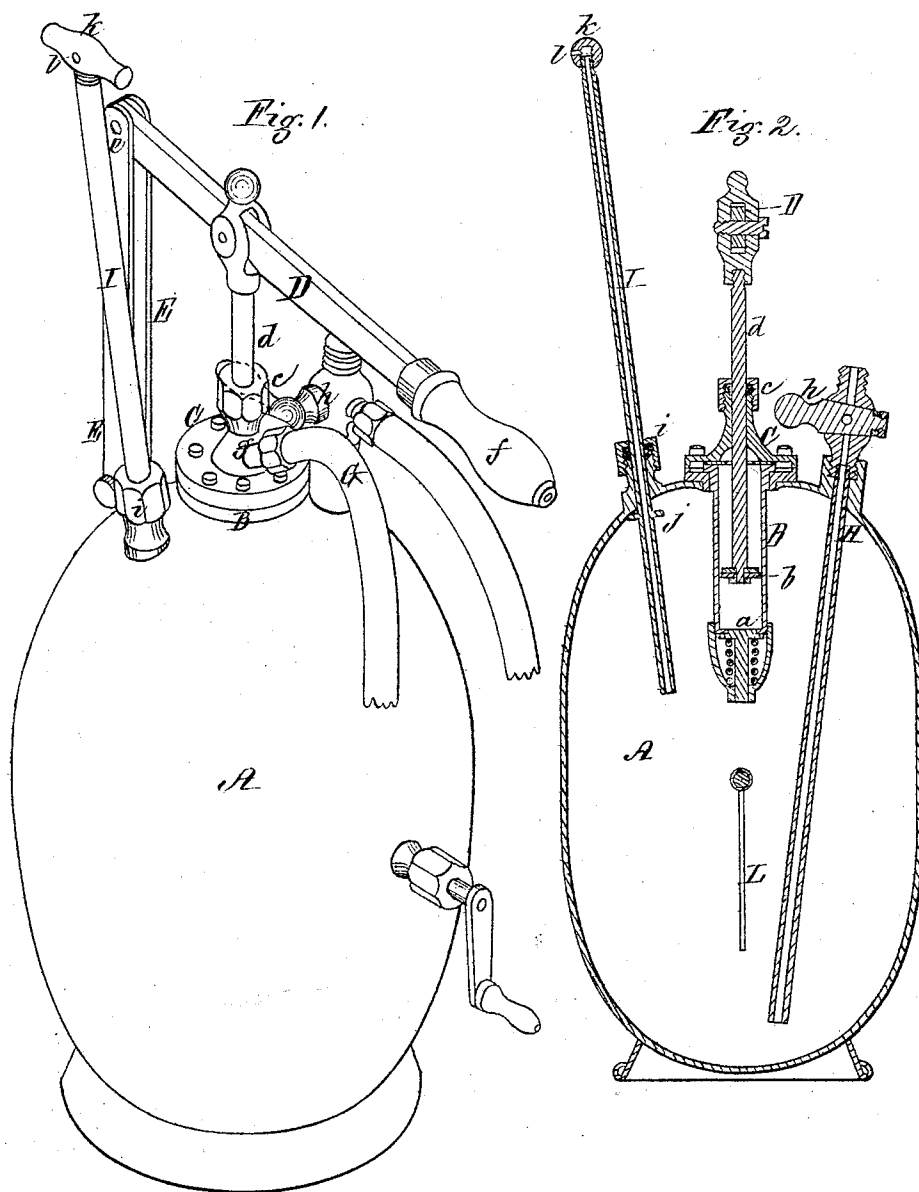


J. C. KENNEDY.
Fountains for Containing Aerated or Gaseous
Liquids.

No. 146,594.

Patented Jan. 20, 1874.



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UNITED STATES PATENT OFFICE.

JOHN C. KENNEDY, OF TOLEDO, OHIO, ASSIGNOR TO JAMES W. TUFTS, OF MEDFORD, MASSACHUSETTS.

IMPROVEMENT IN FOUNTAINS FOR CONTAINING AERATED OR GASEOUS LIQUIDS.

Specification forming part of Letters Patent No. **146,594**, dated January 20, 1874; application filed November 20, 1873.

To all whom it may concern:

Be it known that I, JOHN C. KENNEDY, of Toledo, Lucas county, State of Ohio, have invented certain Improvements in Fountains for Containing Aerated or Gaseous Liquids, 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 a soda-fountain with my improvements applied thereto. Fig. 2 is a vertical section through the center of the same.

In the use of fountains for containing aerated or gaseous liquids, a portion of the gas remains in the fountain after being emptied of its liquid contents, and where the ordinary fountain was employed it became necessary to allow the gas so remaining to escape before the cap of the fountain could be removed to admit of its being resupplied with water. To avoid the waste of this gas, and thereby effect a saving in the gas-producing materials, a fountain has been employed having a pump connected with, but situated outside of, it. The pump thus placed away from the fountain was, however, objectionable on account of the considerable space it occupied, and the liability of the pump forcing air with the water into the fountain.

To obviate this last-mentioned objection is the purpose of my invention, which consists in arranging the force-pump within the air-tight fountain, whereby it is rendered more compact and easy to handle, and no air is liable to be drawn into the pump, as is the case when the pump is outside the water cylinder or fountain. The second portion of my invention has for its object to enable me to ascertain when a sufficient quantity of water has been pumped into the fountain, and also to ascertain the quantity of water within the fountain at any time when in use; and this portion of my invention consists in a hollow rod or tube sliding through a stuffing-box, the top of the tube being closed by a screw-cap or stop-cock, which may be operated to allow the water to escape therefrom when on a level with the bottom of the tube.

To enable others skilled in the art to under-

stand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A is an ordinary soda-fountain, containing the carbonic-acid gas and the charged water, within which, and extending centrally down from its top, is the cylinder of a force-pump, B, provided with a valve, *a*, opening downward. Within this cylinder moves the piston *b*, employed for forcing water into the fountain against the pressure of the gas remaining therein after the charged water is drawn off and the fountain requires a new supply of water. The top of this cylinder is closed by a circular cap, C, provided with a stuffing-box, *c*, through which passes the piston-rod *d*, to the top of which is secured a lever, D, having its fulcrum *e* at one end at the top of a pair of upright standards, E, rising from the fountain, the other end of the lever being provided with a handle, *f*, by which the pump is operated. Projecting out from the side of the cap C is a short tube, *g*, over which is fitted the pipe G, through which water is drawn by the pump to supply the fountain, the tube *g* being provided with a valve opening inward.

By thus placing the pump within the fountain, instead of outside of and away from it, as heretofore, the entire apparatus is rendered much more compact, which, where the space is limited, and consequently valuable, is an important consideration; but the special advantage gained by locating the pump inside of the fountain is, the certain prevention of the possible induction of air into the pump, as is the case where the pump is located outside in the air.

The carbonic-acid gas from the generator is forced into the fountain through a tube, H, projecting out from near its top, the communication between the tube and the fountain being controlled by a stop-cock, *h*. I is a hollow rod or tube passing through a stuffing-box, *i*, into the fountain. On the top of this tube is screwed a cross-bar, *k*, which serves as a handle to raise and lower the tube, and as a cap to close its open upper end. In one side of this cap is formed a small opening, *l*, which

serves as a vent through which either the gas or water within the fountain may escape when the cross-bar or cap is slightly unscrewed. Instead of the cross-bar, a stop-cock may be used, if preferred. This tube is provided with a stop, *j*, and is drawn up into the position seen in Fig. 2 before commencing to supply the fountain with water, which, on rising to a point above its bottom, is forced (by the pressure within) to escape through the vent *l* when opened by turning the cap *k*, the vent being closed and the pump being operated until the attendant thinks the fountain is about two-thirds full, when the vent is opened and the gas allowed to escape till such time as the water reaches the bottom of the tube, when it is forced up through it and escapes therefrom, thus indicating that the fountain has received its proper supply of water, after which the vent is closed by turning the cap. The height of the water within the fountain may be readily ascertained at any time when in use by simply pushing the tube down till its bottom reaches the liquid, when the latter will escape

at the vent *l*, (previously opened,) the gas being free to escape till the water appears. By graduating the outside of the tube *I*, it will serve as a gage by which the exact contents of the fountain may be known whenever desired. *L* is a stirrer for agitating the water in the fountain to render it capable of absorbing the greatest amount of gas.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a force-pump located within a fountain for containing aerated liquids with a water-pipe, *G*, substantially as and for the purpose set forth.

2. In combination with the fountain *A*, the sliding tube *I*, having its top closed by a screw-cap, *k*, or other device, operating substantially as and for the purpose described.

Witness my hand this 14th day of November, 1873.

JOHN C. KENNEDY.

In presence of—

OTTO REIDEMEISTER, .
W. P. MCCARON.