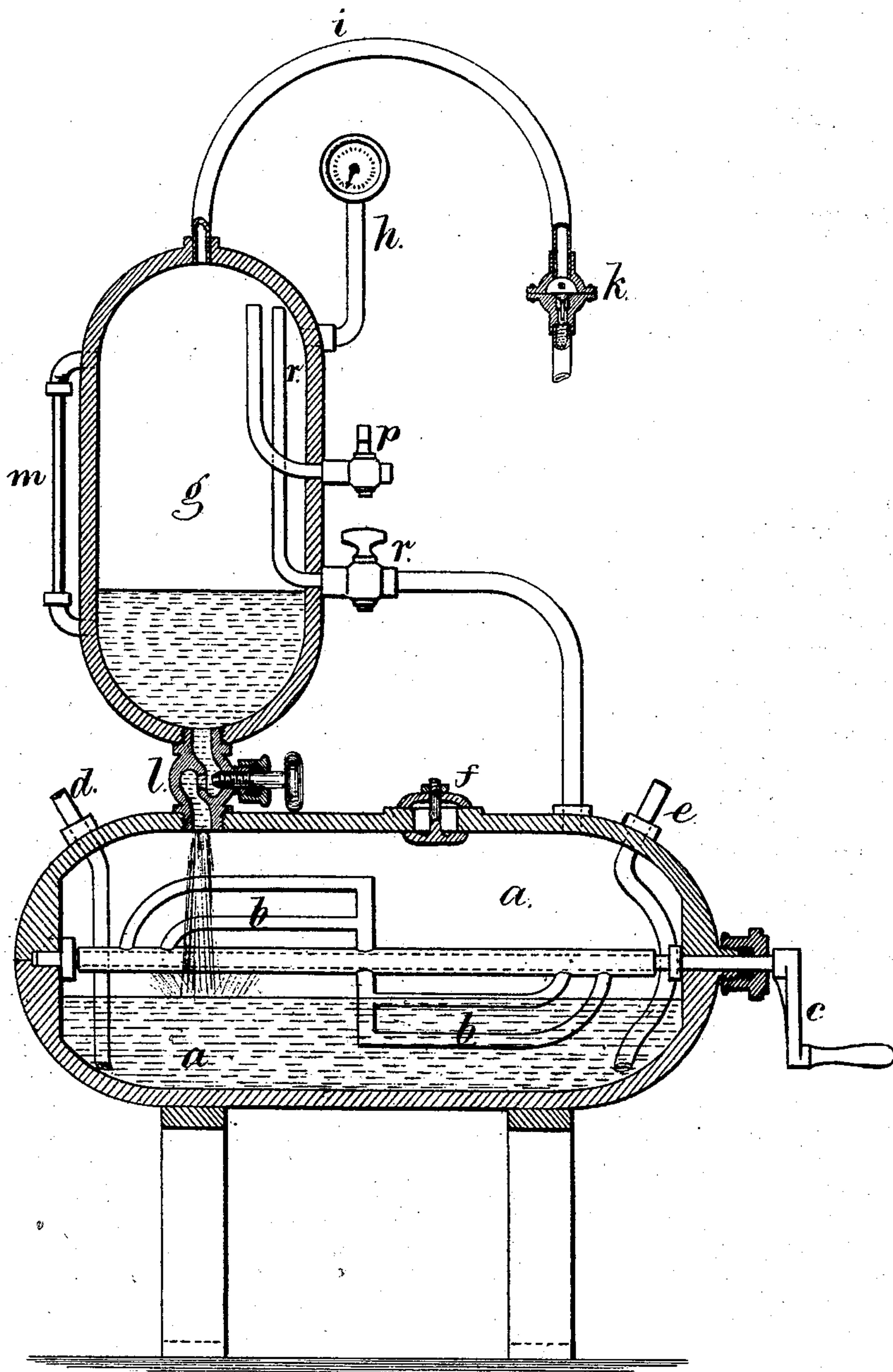


W. W. KNIGHT.
Mineral Water-Fountain Feeders.

No. 149,135.

Patented March 31, 1874.



Witnesses

Chas. H. Smith
Geo. J. Pinckney

Inventor

William W. Knight
per Lemuel W. Serrell
att'y.

UNITED STATES PATENT OFFICE.

WILLIAM W. KNIGHT, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN MINERAL-WATER-FOUNTAIN FEEDERS.

Specification forming part of Letters Patent No. **149,135**, dated March 31, 1874; application filed March 5, 1874.

To all whom it may concern:

Be it known that I, WILLIAM W. KNIGHT, of Jersey City, in the county of Hudson and State of New Jersey, have invented an Improvement in Mineral-Water-Fountain Feeders, of which the following is a specification:

In the manufacture of soda-water and other mineral or effervescing liquids, the fountain containing the water is drawn from until it is nearly exhausted, and the gas remaining therein or supplied thereto is under considerable pressure; hence the fresh supply of water has to be pumped in under considerable pressure, causing a loss in time and expense.

The object of my invention is to supply water to the fountain more rapidly than heretofore, and without pumping. I make use of a water-holder or secondary fountain at a higher elevation than the main agitating-fountain, and connect the same to the fountain by pipes with cocks, in such a manner that the gas is allowed to pass from the main fountain and equalize the pressure in the main and secondary fountain, so that the liquid will flow from the latter into the former, and the carbonic-acid gas being absorbed by the water, the pressure is reduced, and when the secondary vessel is shut off from the main fountain a fresh supply of water from an ordinary head or source will run into and again fill the secondary fountain.

In the drawing I have represented the said improvement by a vertical section.

The fountain *a* is of any usual character, with an agitating apparatus, *b*, revolved by the crank *c*. The carbonic-acid gas is supplied by the pipe *d*, and passes down to near the bottom of the vessel *a*. The pipe *e* passes to the bottling apparatus or fountain-filler, and *f* is a hand-hole and cover, as usual. The secondary fountain *g* is made with the pressure-gage *h*, water-

supply pipe *i*, check-valve *k*, and pipe and cock *l*, at the bottom connecting to the fountain *a*. A glass gage, *m*, may be employed to indicate the height of liquid. The air-cock *p* serves to allow air or gas to escape while the secondary fountain is being filled, and the pipe and cock *r* pass from the top of the fountain *a* up to near the top of the secondary fountain *g*.

When the liquid in the fountain *a* has been drawn off to the required point, the cocks *l* and *r* are opened, the pressure of gas becomes equal in the vessels *a* and *g*, and the water runs by gravity into the vessel *a*, and the agitation to which it is subjected causes the gas to be absorbed and lessens the pressure. The cocks *l* and *r* are now closed, and the water runs in by the supply-pipe *i* as soon as the pressure of gas is less than that of the head. The cock *p* allows gas to escape if necessary to lessen the pressure in the vessel *g*. The check-valve *k* prevents the gas driving the water back in the supply-pipe.

My apparatus, it will be seen, is very simple and effective, and lessens the time required to charge the fountain, as well as avoiding the trouble of pumping water into the fountain against the pressure of gas.

I claim as my invention—

The secondary fountain *g*, connected to the fountain *a* by the cocks and pipes *l* and *r*, in combination with the supply-pipe *i*, check-valve *k*, and the agitating apparatus *b* in the vessel *a*, substantially as and for the purposes set forth.

Signed by me this 2d day of March, A. D. 1874.

WM. W. KNIGHT.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH.