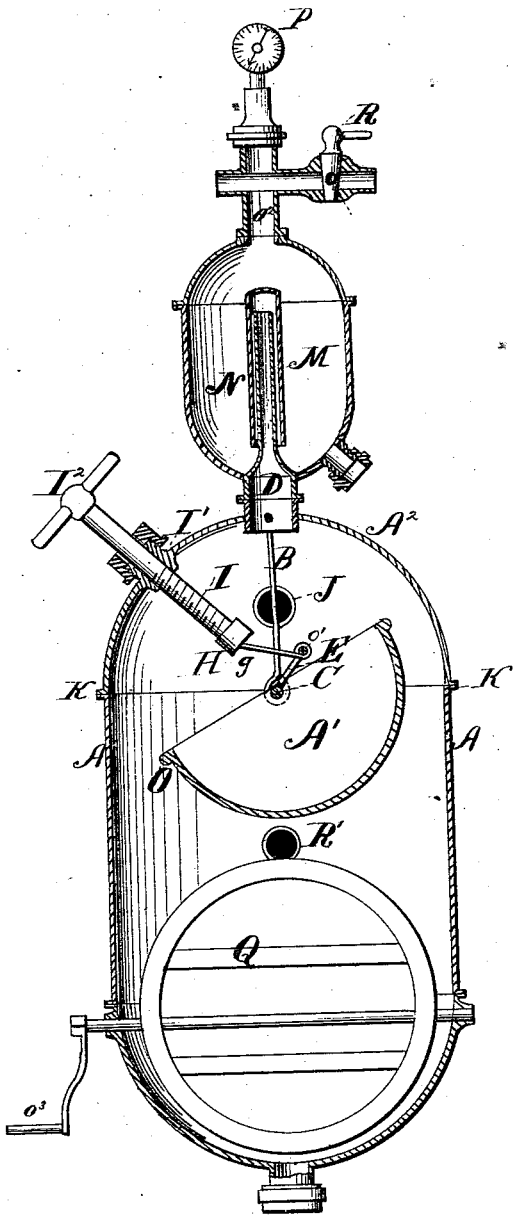
J. ANDERSON.

Soda Water Generator.

No. 162,212. Patented April 20, 1875.



Witnesses;

Harry C. Clark.

M. Schmeck

Inventor.

James Anderson.

by Hill & Ellsworth

Attys.

UNITED STATES PATENT OFFICE.

JAMES ANDERSON, OF ALLEGHENY, PENNSYLVANIA.

IMPROVEMENT IN SODA-WATER GENERATORS.

Specification forming part of Letters Patent No. **162,212**, dated April 20, 1875; application filed March 20, 1875.

To all whom it may concern:

Be it known that I, JAMES ANDERSON, of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Soda-Water Generators; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical section of my invention.

Similar letters of reference in the accompanying drawings denote the same parts.

In soda-water generators, as ordinarily constructed, explosions frequently occur from the admixture of large quantities of the acid with the alkali employed, thus rapidly generating large quantities of gas, the pressure of which endangers the vessel in which the gas is generated. To remedy this defect is the object of my invention; and to this end it consists in the employment of an acid-chamber, supported by a horizontal axis, on which it is made to revolve in the upper part of the gas-generator by means of a lever attached at one end to the horizontal axis or diameter of the acid-chamber, its opposite end being connected by a swivel-joint to a screw-stem passing through a suitable orifice in the casing of the generator, and terminated by a handle, by which construction the acid-chamber may be gradually tilted and retained in any desired position, and the acid emptied upon the alkali, thus obviating all danger of generating gas so rapidly as to cause an explosion.

In the accompanying drawings, A is the outer casing of the generator, preferably supported by suitable legs, and provided at its upper end with a flange, M, upon which the dome A^2, having a similar flange, rests, the two being bolted or otherwise securely fastened together. A^1 is the acid-chamber, hung by the bail B in the upper part of the generator, and provided with a horizontal axis, C, on which it is free to revolve. E is a projection or lever, attached at its inner end to the middle, or thereabout, of the horizontal axis C of the acid-chamber, the opposite end of the lever E being connected by a swivel-joint, o^1, with the rod *g*, which is attached at its opposite end to the lower end of the screw-stem I. H is a ball-and-socket joint to allow the stem I to revolve or screw into the cylindrical projection I^1 on the generator, the hollow interior portion of which is screw-threaded to receive the screw I, and the outer surface of the projection I^1 being also screw-threaded, to receive a perforated screw-cap, to prevent the escape of gas. The upper end of the screw-stem I is provided with a suitable handle, I^2, for operating it. O is a discharge spout or opening in the side of the acid-chamber. By this construction it will be seen that by operating the handle I^2 the acid-chamber A^1 can be slowly tilted to empty its contents, and can be retained in any desired position. J is an opening in the dome for the introduction of acid into the chamber A^1, and it is provided with a screw-cap to prevent the escape of gas. D is a tube, the lower end of which opens into the dome of the generator, and M is a larger tube, open at its lower end only, and concentric with the tube D, the upper end of the tube M being closed, so that gas coming up through the tube D will be made to pass between it and the inner surface of the tube M, and thence through the solution in the gas-washer N, to free it from its impurities, to the tube o^2, and thence through the valve R to the fountain or gas-reservoir. Q is an agitator for thoroughly mixing the acid with the alkaline solution, placed at the bottom of the generator, and operated by the handle o^3. R′ is an opening for supplying alkali to the generator, provided with a screw-cap when the generator is in use, to prevent the escape of gas. P is a gage to indicate pressure of the gas.

I claim as my invention—

The acid-chamber A^1, supported by the bail B in the generator, and provided with the rod *g*, ball-and-socket joint H, and screw-stem I, substantially as described, and for the purpose set forth.

JAS. ANDERSON.

Witnesses:

C. T. FOY,

W. H. STERRITT.