

# Peter Keller's Imp<sup>d</sup> Gas Regulator

116321

PATENTED JUN 27 1871

Fig. 1.

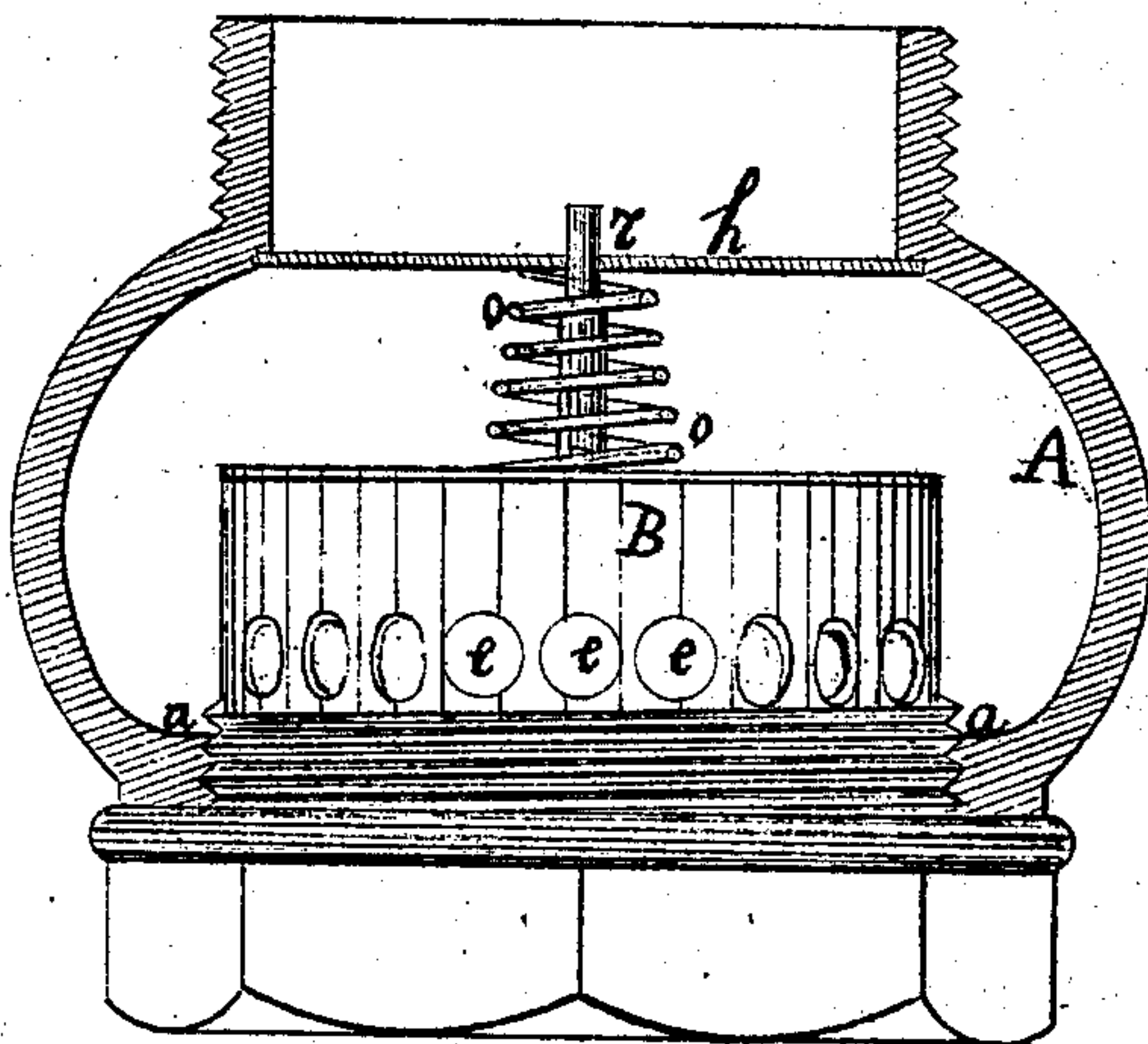


Fig 2

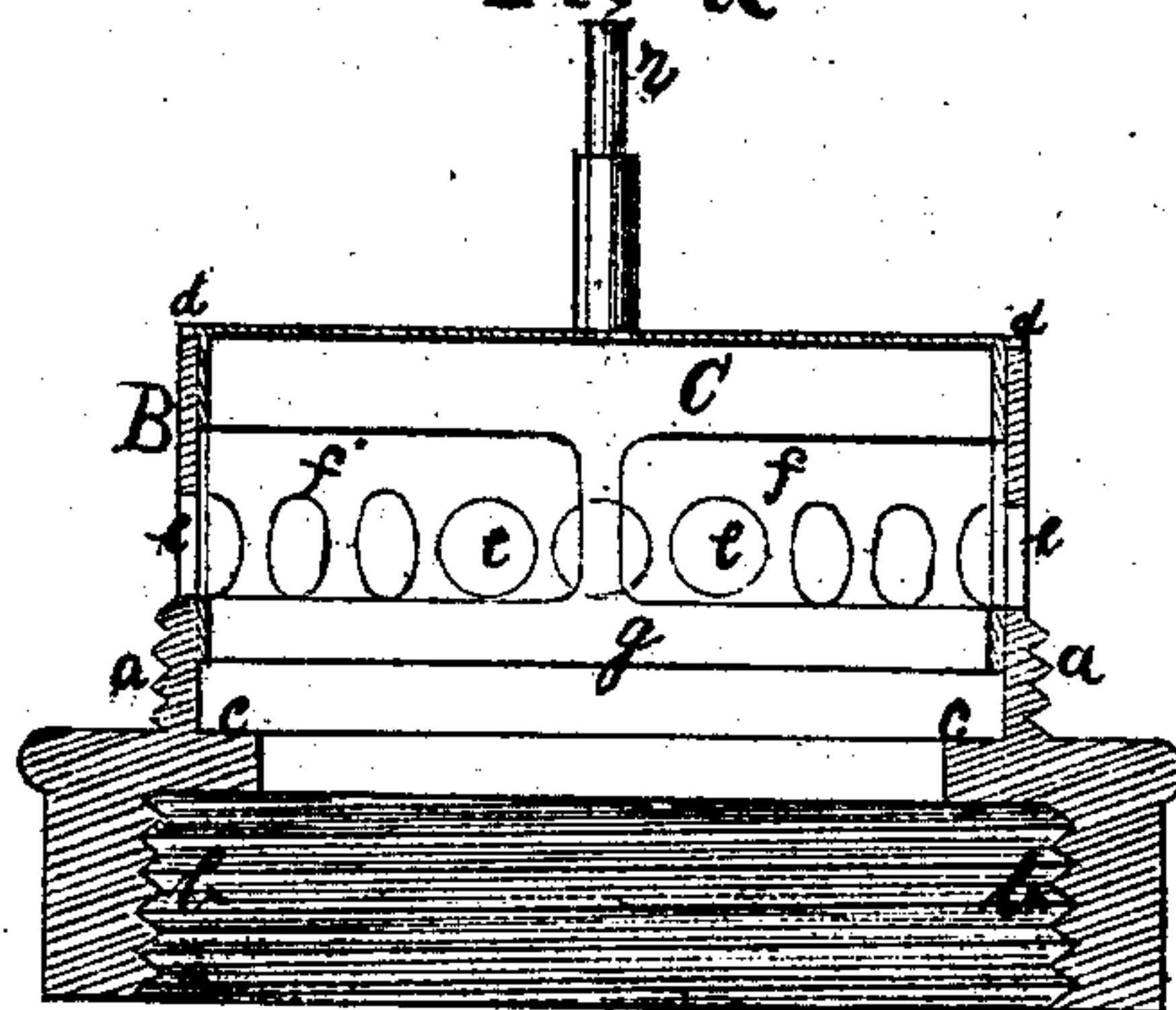
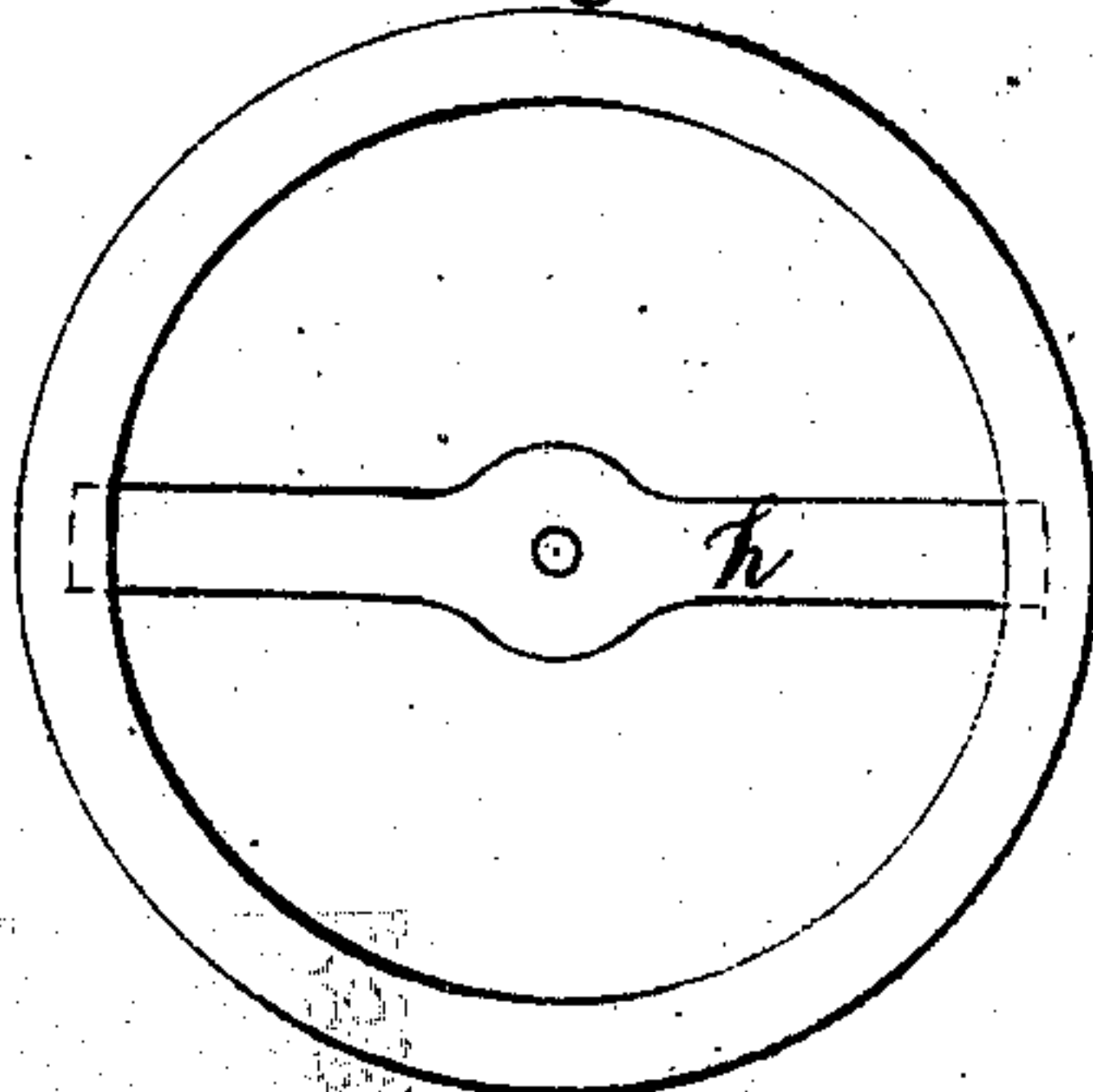


Fig 3



Witnesses

Thomas Dyson

H. Gerner

Inventor

Peter Keller  
per Gerner & Co  
his Attorneys.



# UNITED STATES PATENT OFFICE.

PETER KELLER, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND CHARLES A. MARTIN, OF SAME PLACE.

## IMPROVEMENT IN GAS-REGULATORS.

Specification forming part of Letters Patent No. 116,321, dated June 27, 1871; antedated June 17, 1871.

*To all whom it may concern:*

Be it known that I, PETER KELLER, of the city, county, and State of New York, have invented a new and useful Improvement in Gas-Regulators; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 is a side elevation of my invention, showing section of receptacle, the nozzle, the spring, the rod, and the guide, with the valve at rest. Fig. 2 is a section through the nozzle, and the valve at rest. Fig. 3 is a ground plan, showing the guide for the rod.

This invention relates to an improvement in that class of gas-regulators for which a patent was granted to me October 4, 1870. This invention also consists in a cup-shaped valve, fitting into a nozzle, which is provided with a shoulder to receive the bottom edge of said valve, while the valve is provided with a projecting rim to rest on the edge of the nozzle, the nozzle being perforated with holes, as represented in the drawing, and incased in a receptacle of globe-shaped form in such a manner that when the valve is clear down the holes are all open, and will, consequently, allow all the gas the feeblest pressure will give to pass through them. In the case the pressure increases the valve will be raised and the holes partially closed, and will, therefore, by increased pressure, allow proportionally less and less gas to pass. On the top of the valve is a rod placed, with a shoulder to the same. This rod, above the shoulder, passes through a guide inside the receptacle, as represented in the drawing. A spiral spring, resting on the top of the valve and surrounding the rod, pushes against the guide, and will consequently serve to increase the resistance in case the increased gas-pressure lifts the valve. The higher the valve is lifted the more resistance will the spring present, which

is just what is required, until the shoulder of the rod pushes against the guide, by which the holes are closed to such an extent that only about one-seventh of the area of the holes is left open. The area of the holes in the nozzle should be about one-half of the area of the top of the valve, so that the increased pressure must always lift the valve before the gas escapes through the holes.

In the drawing, A designates a globe-shaped chamber or receptacle, which is provided with an internal screw-thread, *a*, to receive the nozzle B. The nozzle B is provided at its bottom with a screw-thread, *b*, to be applied to a gas-meter, or to a pipe connecting with such a meter, and another pipe attached to the upper end of the receptacle A leads to the burners. The nozzle B is bored out to receive the cup-shaped valve C, and it is provided with an internal shoulder, *c*, for the valve to rest upon, while said valve is furnished with a projecting rim, *d*, which bears on the top edge of the nozzle when the valve is at rest. In the sides of the nozzle is a series of holes, *e*, and a series of slots, *f*, is made in the sides of the valve, and these slots *f* register with the holes *e* as long as the valve is at rest; but as soon as the valve is raised the lower part of the valve, forming a ring, *g*, partially closes the holes *e*. Across the upper part of the receptacle A extends a cross-piece, bar, or guide, *h*, into which the rod *r* is inserted. *o* is a spiral spring surrounding said rod.

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

In combination with the receptacle A, rod *r*, guide *h*, spiral spring *o*, and nozzle B provided with holes *e*, the valve C provided with the slots *f*, and ring *g* so arranged that when the valve is clear down the holes will all be open, but when the valve is raised the ring will partially close the holes, as and for the purposes set forth.

Witnesses:

PETER KELLER.

H. GERNER,  
THOMAS DYSON.