J. C. Nightman,

Stop Cock.

No. 32,804. Patented July 9, 1861.

Fig: 1.

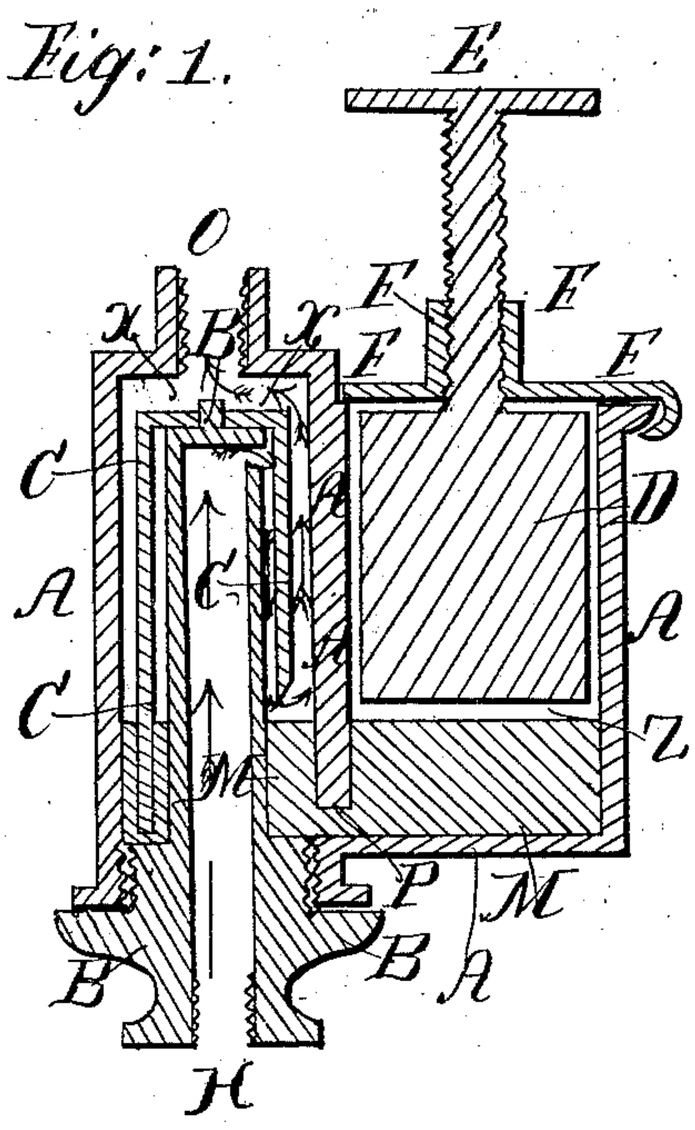
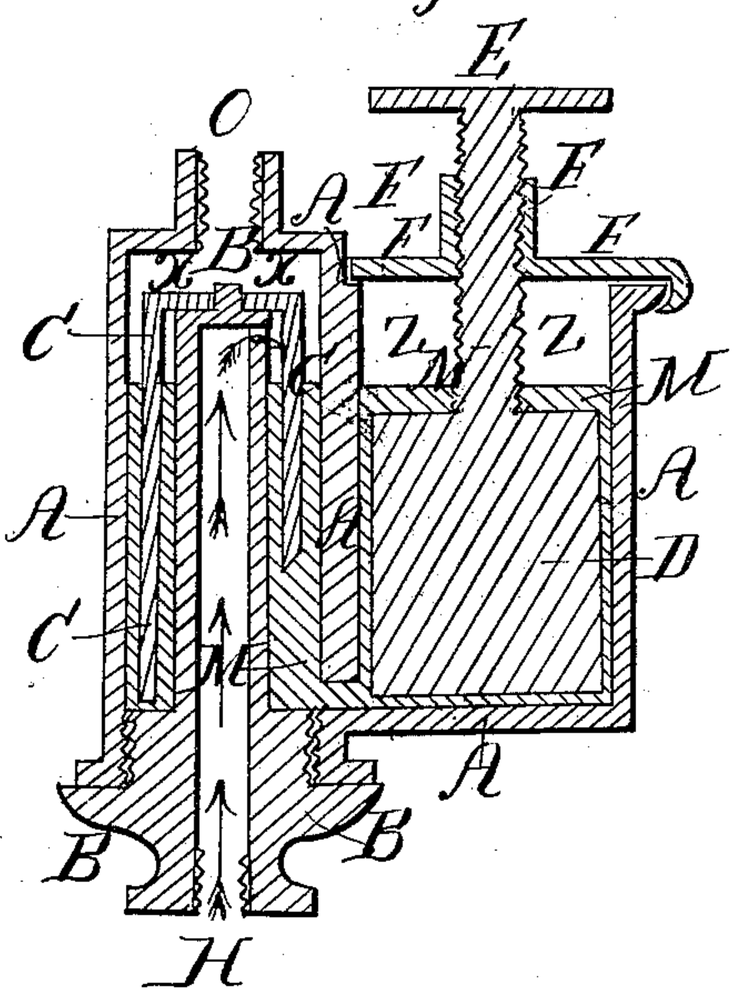


Fig: 2.



Witnesses;

W. F. Shaw

Thomas Stephenson

Inventor;

Joseph C. Nightman

UNITED STATES PATENT OFFICE.

JOS. C. WIGHTMAN, OF BOSTON, MASSACHUSETTS.

GAS-COCK.

Specification of Letters Patent No. 32,804, dated July 9, 1861.

To all whom it may concern:

Be it known that I, JOSEPH C. WIGHTMAN, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Gas Cock or Stop; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

Figure 1 is a vertical, sectional view of the invention, entirely open for the passage of gas. Fig. 2 is a vertical sectional view of the invention, entirely closed, to prevent the egress or passage of the gas.

The nature of my invention consists in the construction of a gas cock or stop, viz: of two hollow cylinders of metal, cast or attached together, and their interiors communicating by a small opening—one of said cylinders containing an interior cylinder, tube, and passages, and the other an adjustable plunger for opening, closing, and regulating the flow of gas through the first mentioned cylinder through the intervention of mercury, acted upon by said plunger or displacer, as will be explained.

In Figs. 1 and 2—A represents the outside case of my apparatus, which consists of two hollow cylinders of iron vertically attached to each other; having the interiors connected by means of a small hole or orifice P.

B, is a tube which extends nearly to the top of the chamber X, and is designed to screw upon the supply pipe at H. A hole horizontally drilled near the top of B, allows the gas to flow into a space formed by a cylinder or cap C, which has a vertical slit for the passage of the gas from B, to O, as is represented by the direction of the arrows in Fig. 1.

In the chamber Z;—D, is the displacer, which may be cylindrical or any other form, with a stem E, passing through the cover F, and the displacer D may be elevated or depressed into the mercury M, by means of a screw, lever or any other mechanical contrivance.

The operation is as follows:—Mercury is poured into either partition of the apparatus, and flows through the orifice P, to the same level in each of the cylinders. This prevents the gas passing through the orifice P, but allows it to escape at the slit in C, and follow the course indicated by the arrows in Fig. 1, to O, which is the final outlet. To shut off the gas; the displacer D, is depressed into the mercury M, by which operation the mercury M is displaced and elevated in the cylinders X and Z, and when the mercury M rises to the height shown in Fig. 2, the flow of the gas is entirely prevented by the submerging and closing of the slit in C, by the elevation of the mercury M.

The quantity of gas passing to the outlet O, may be regulated by depressing the displacer D, more or less, by which means the mercury M, is raised or lowered, so as to reduce or increase the length of the slit in C thus regulating the supply, at pleasure.

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

The construction of a cock or stop for gas or air, of two cylinders joined together, and with a communicating passage between them, one of said cylinders being furnished with an adjustable plunger or displacer and a mercury cup, by means of which the flow of gas through the other may be regulated in quantity or entirely stopped—the whole being constructed, arranged, and operating as herein set forth.

In testimony whereof I have hereunto set my signature, this 19th day of April, 1861.

JOSEPH C. WIGHTMAN. [L. S.]

Witnesses:

W. F. SHAW, [L. S.]

THOMAS STEPHENSON. [L. S.]