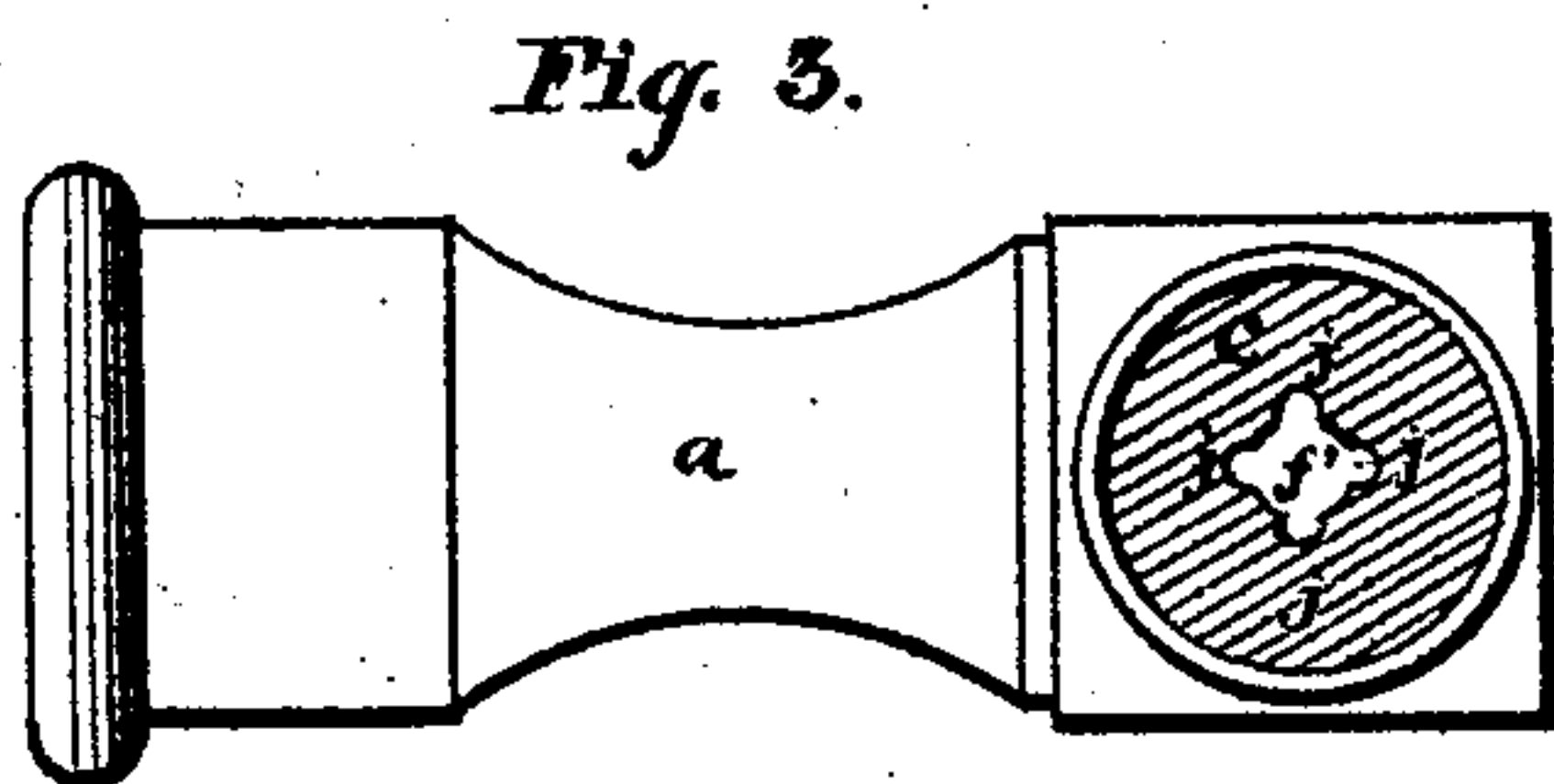
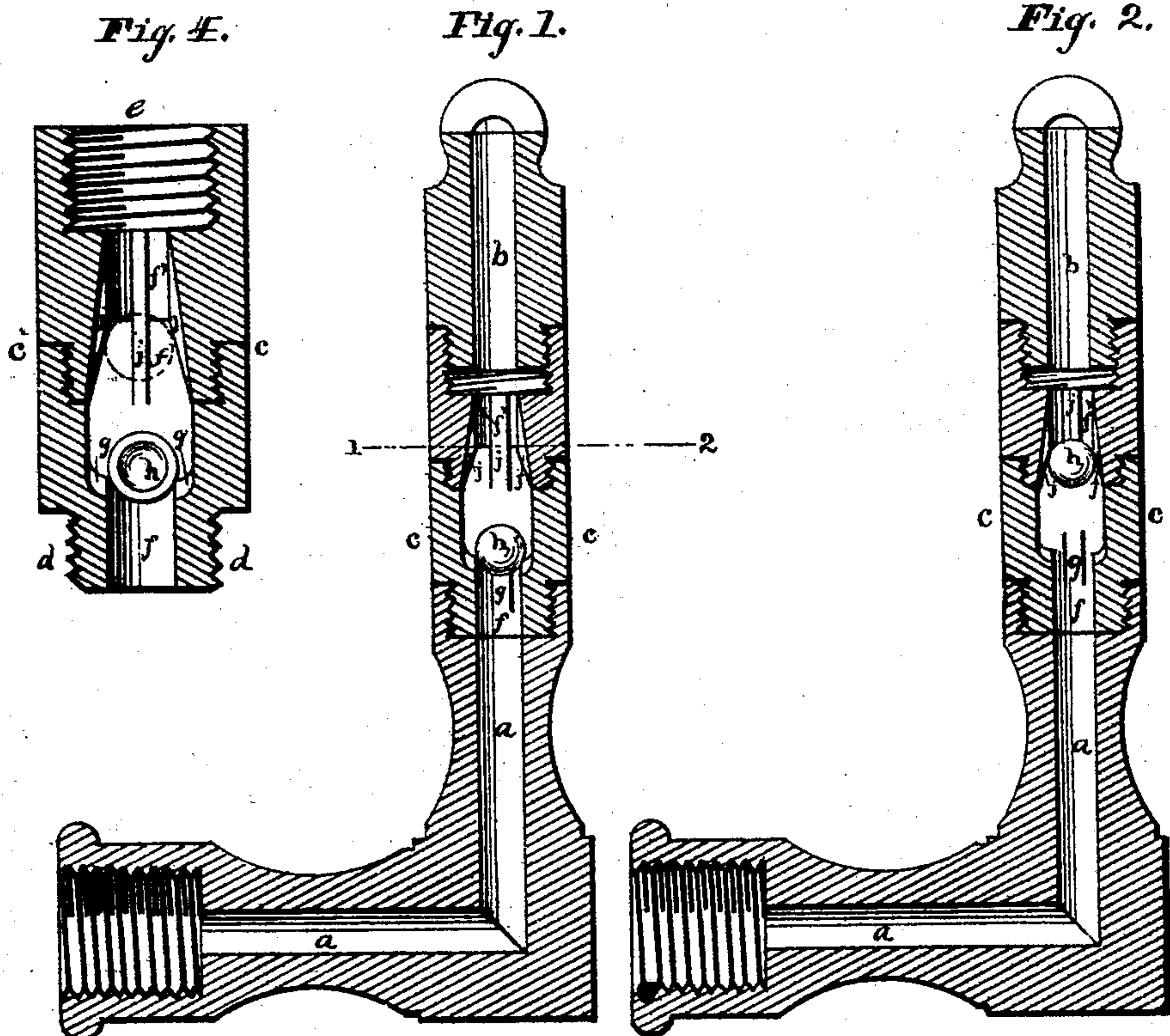


**J. A. CRÉTÉ.**  
**Gas-Regulators.**

No. 152,083.

Patented June 16, 1874.



**Witnesses:**

1 Charles Delmas  
2 Emile Duhan

**Inventor:**

*Jules Amédée Crété*



# UNITED STATES PATENT OFFICE

JULES ANSELME CRÉTÉ, OF CORBEIL, NEAR PARIS, FRANCE.

## IMPROVEMENT IN GAS-REGULATORS.

Specification forming part of Letters Patent No. **152,083**, dated June 16, 1874; application filed February 25, 1874.

*To all whom it may concern:*

Be it known that I, JULES ANSELME CRÉTÉ, of Corbeil, near Paris, France, printer, have invented a Gas-Regulator, applicable also for other fluids; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed sheet of drawings, making a part of the same.

The object of my invention is an improvement in regulators for gas and other fluids, in which a ball or sphere is confined in a tube or chamber, through which the fluid passes, and rises or falls, as the pressure is greater or less, thus obstructing the delivery. My regulator consists of a tube, box, or chamber fitted on the gas-burner, the water-pipe, &c., and formed at its upper part with a central channel of definite section, on the inner surface of which grooves or recesses are formed, which increase the sectional surface thereof. The number and section of these grooves or recesses is so calculated that, supposing the central channel to be obstructed, there will pass through the grooves (which constitute so many distinct passages leading to the burner proper, or to the water-outlet) only a desired quantity of gas or water; or, in other words, the regular delivery. Thus, for a burner to consume ten thousand cubic feet for a definite time, the channel in the regulator may have three grooves or additional recesses. For a burner to consume fourteen thousand cubic feet, the channel may then have four grooves, or three only, but of larger section than those of the ten-thousand-cubic-feet burner. The lower part of the central channel is conical, and the body of the regulator is so set that, when the delivery of gas or water is shut up, a small sphere rests on a seat at a certain distance beneath the cylindrical portion of the channel or passage. The seat consists of two or three pins, which retain the sphere above the center of the inlet-pipe without closing it completely, leaving around the same free passages, while the space between said seat and the grooved channel forms a case or chamber, into which the sphere can rise.

The whole, as above described, will constitute either a tube or a box, which, being provided with a screw-thread at either end, will

be fitted with the utmost facility, either on a burner or a water-pipe.

The operation is as follows: The delivery-cock being shut, the sphere stands resting on its seat. If, now, the cock is opened, and the pressure is superior to two-fifths of an inch, the sphere then will rise; and, getting near to the conical part of the central channel, will give access to the burner of only the quantity of gas passing through the grooves in said channel and the annular section existing between said sphere and the channel surface. Should the pressure increase, then the sphere will narrow more and more the annular space, so far as to completely annul it, and the gas will then escape only through the grooves, which are adapted for delivery of a volume of gas sufficient for the normal consumption of the burner. When the pressure subsides the inverse effect will be produced, the sphere lowering, and thus increasing the escape section. When the pressure gets beneath two-fifths of an inch, the sphere will drop again to its seat, and the gas will escape through the entire channel and its grooves.

Now, the advantage offered by my regulator, chiefly so far as concerns work-shops, is that it will be no longer requisite to be constantly occupied in opening and closing the delivery-cock more or less, according to the variations of pressure, as said cock is to remain constantly wide open for the good working of the system, the number of the grooves and their sections being calculated for a given delivery or consumption under the ordinary normal pressure. It will be understood that the working will be the same when the regulator is applied to a water-pipe.

I have represented, as an example, in the annexed drawings, a regulator of my system as applied to a gas-burner.

Figure 1 shows a central vertical section of the burner, the sphere resting on its seat. Fig. 2 shows a similar section, the sphere forming an obturation for normal delivery. Fig. 3 shows a horizontal section of the burner through the line 1 2, Fig. 1; and Fig. 4 shows, on a larger scale, a vertical section of the regulator proper.

The same letters of reference stand in all

the figures for the like parts where they recur.

*a*, tube of the burner; *b*, burner, butterfly-like or otherwise, screwing on tube *a*; *c*, body of the regulator, which may be of any other shape than that shown. It is formed at its base or lower part with a screw-thread, *d*, for its attachment to tube *a*, and at its upper part with a female screw, *e*, for admitting the burner *b*. *f* is the central inlet-channel of the regulator; *g*, a seat on which rests the sphere *h*; *f'*, central outlet or escape conduit from the regulator; *j, j*, grooves forming side passages of central channel *f*.

I claim—

The tube or box having a series of lengthwise grooves formed on the contracted upper part of the inner channel, and a series of pins or projections in its lower part, and the contained ball or sphere, combined to operate as shown and described, for obstructing the flow of gas or other fluid when in excess of a given or desired quantity.

JULES ANSELME CRÉTÉ.

Witnesses:

CHARLES DESNOS,  
EMILE DUHAN.