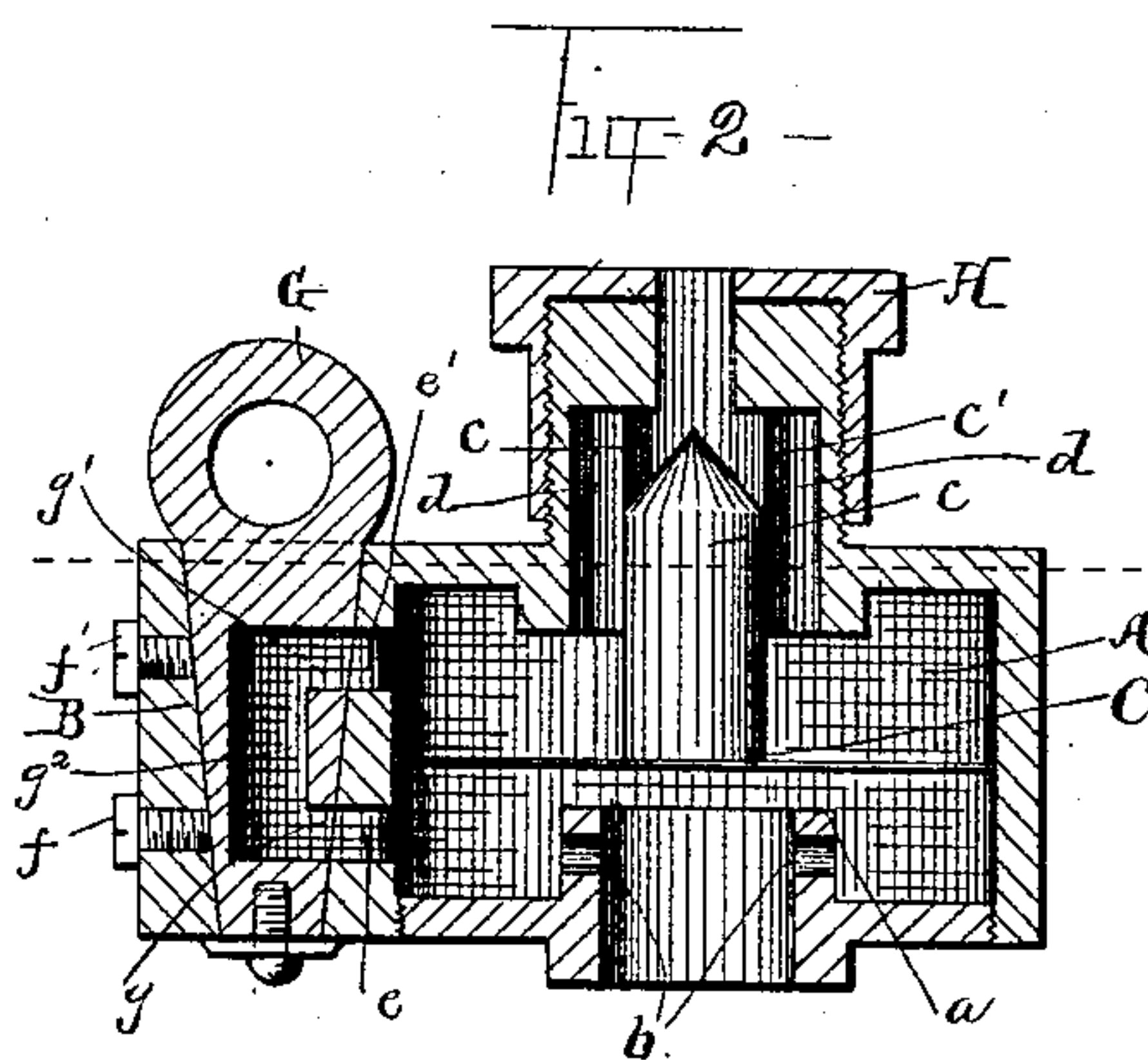
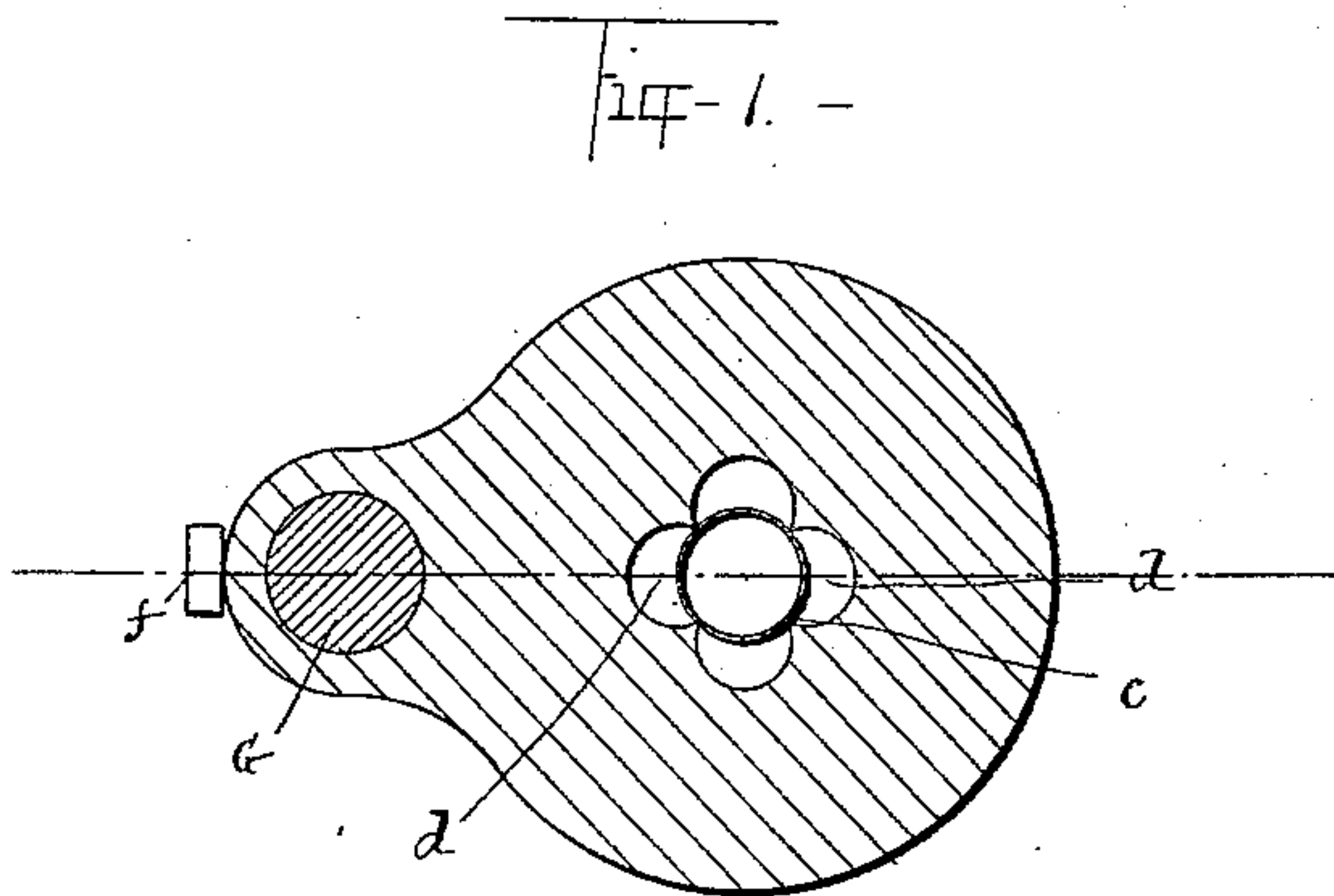


(No Model.)

P. G. VAN WIE.
VOLUMETRIC GAS GOVERNOR.

No. 435,469.

Patented Sept. 2, 1890.



Witnesses
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UNITED STATES PATENT OFFICE.

PETER G. VAN WIE, OF CLEVELAND, OHIO.

VOLUMETRIC GAS-GOVERNOR.

SPECIFICATION forming part of Letters Patent No. 435,469, dated September 2, 1890.

Application filed January 31, 1890. Serial No. 338,773. (No model.)

To all whom it may concern:

Be it known that I, PETER G. VAN WIE, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented certain new and useful Improvements in Volumetric Gas-Governors, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to volumetric gas-governors.

It consists of a body portion provided with two or more gas-ports, a valve-float located intermediate of said ports, and an adjustable regulator that is adapted to choke or open said ports.

It consists, further, in providing the governor with a series of anti-friction valve-stem guides with which the stem of the valve-float has engagement.

It consists, further, of other improvements hereinafter described and claimed.

Referring to the drawings, Figure 1 is a central horizontal section taken on the dotted line of Fig. 2. Fig. 2 is a vertical section taken on the dotted line of Fig. 1.

A is the primary chamber of the volumetric gas-governor, and B the secondary chamber of the same. At its lower portion said primary chamber is provided with the annular valve-float stop *a*, that has one or more gas-ports *b* opening into said primary chamber. A valve-float *C* fits in said primary chamber and is of about the same circumferential area as that of said primary chamber, said valve being provided with the upwardly-projecting annular stem *c*, that fits into the discharge-orifice of the governor and has bearing against the vertical anti-friction knife-edge float-guides *c'*. These guides are four in number, and between them are the semi-cylindrical gas ports or openings *d*.

Chambers A and B are respectively connected together by the gas-ports *e e'*, respectively located below and above said valve-float. These ports are formed by drilling after the governor is cast, and the openings through which the drill passes on the periphery of the governor are respectively closed by the screws *f f'*. An adjustable gas-regulator *G* fits in

said secondary chamber B, and is provided with the ports *g g'*, that respectively register with ports *e e'*, said ports *g g'* being connected together by the vertical gasway *g²*. At its upper portion said governor is provided with an eye, in which a rod or bolt may be inserted to turn the same. A screw is fitted or secured to its lower portion to hold it in position. A cap or nut *H* is screwed onto the top of the governor, by means of which it may be held firmly within the customary yoke in which the governor is designed to be set. It will be noticed that the opening or port *e* is located in the plane below that of the engaging-point of the float-stop *a* with the float. This prevents the float shutting off the ingress of gas into said port *e* when the valve is in lowered position. The gas, having entered the chamber A, passes through port *e*, up through the way *g*, into and out of ports *g' e'*, thence around the stem *c* into the opening *d*, and thence out of the governor. As the pressure increases, the float has a tendency to rise and the valve-stem contracts the available exit-space through the opening *d*. When the pressure above the float nears the amount of pressure below the float, the latter descends by its own gravity, thus automatically adjusting the escape of gas, notwithstanding variations in pressure. When it is desired to decrease the amount of gas that passes through the governor, a rod may be inserted in the opening in the regulator *G* and said regulator turned simultaneously and to an equal degree, choking off the available gas-opening in the ports *e e'*.

By means of my anti-friction float-stem guides I materially lessen the amount of friction between the float-stem and said guides, as it is obvious that the amount of friction caused by the contact of said float-stem with said narrow-edged or knife-edged guides is far less than the friction which would result if said stem were in contact with the walls of a cylinder.

The foregoing description and accompanying drawings set forth in detail mechanism embodying my invention. Change may be made therein, provided the principles of construction respectively recited in the following claims are retained and employed.

I therefore particularly point out and distinctly claim as my invention—

1. In a volumetric gas-governor, the combination, with a valve-float located intermediate of two gas-ports, of an adjustable regulator provided with openings adapted to register
5 with said ports, substantially as set forth.

2. In a volumetric gas-governor provided with two gas-ports, the combination, with a valve-float located intermediate of said gas-ports, of a hollow regulator adapted to permit
10 the passage of gas through it and also to regulate the flow of gas through said gas-ports, substantially as set forth.

3. In a volumetric gas-governor, the combination, with a valve-float fitting in the body
15 of the governor and located intermediate of

two gas-ports and independent of and detached from said governor-body, of an adjustable regulator located in the same vertical plane with both said ports and adapted simultaneously to regulate the volume of gas passing through said ports, substantially as set forth. 20

In testimony that I claim the foregoing to be my invention I have hereunto set my hand this 28th day of January, A. D. 1890.

P. G. VAN WIE.

Witnesses:

J. B. FAY,
E. E. PATE.