

F. M. DUNBAR, NELLIE STOWELL & E. M. DUNBAR.
Gas-Governor.

No. 163,166.

Patented May 11, 1875.

Fig. 1

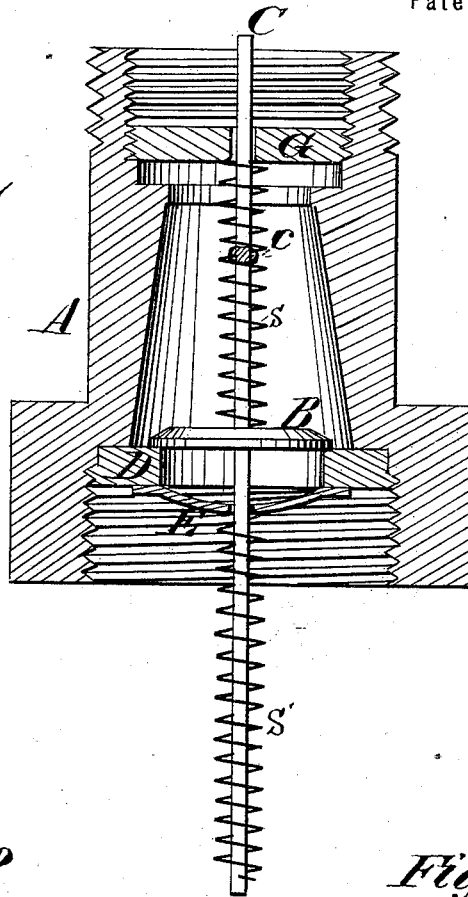


Fig. 2

A

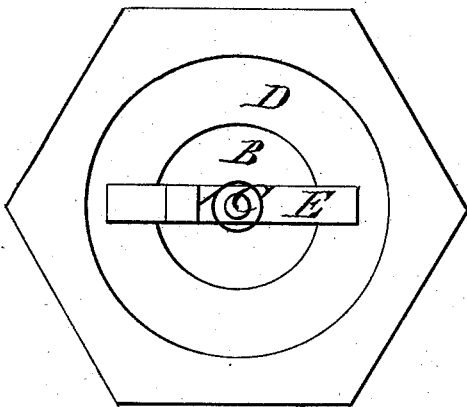
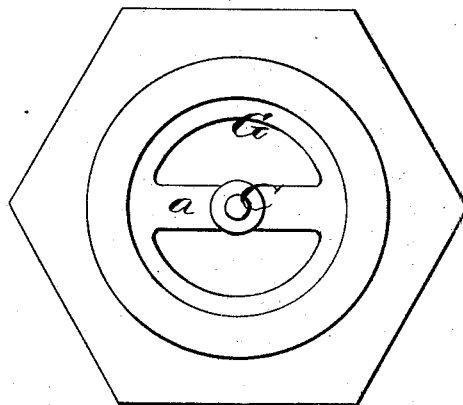


Fig. 3

A



WITNESSES

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UNITED STATES PATENT OFFICE.

FRANCIS M. DUNBAR, NELLIE STOWELL, AND EUGENE M. DUNBAR, OF
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IMPROVEMENT IN GAS-GOVERNORS.

Specification forming part of Letters Patent No. **163,166**, dated May 11, 1875; application filed
March 20, 1875.

To all whom it may concern:

Be it known that we, FRANCIS M. DUNBAR, NELLIE STOWELL, and EUGENE M. DUNBAR, all of Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented a new and valuable Improvement in Gas-Governors; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a sectional view of our gas-governor, and Figs. 2 and 3 are plan views of the same.

Our invention has relation to check-valve governors for automatically regulating the flow of illuminating-gas to the burners; and the nature of our invention consists in combining a spring-valve with a pipe-section having a conical bore, as will be hereinafter explained.

In the annexed drawings, A designates a pipe-section or cylindrical box having a nut-enlargement on one end and a screw-thread on the other end. This short section A is adapted to connect together two pipe-sections. The bore of the section A is made tapering, and the tapering portion terminates at both ends in screw-threaded sockets, in the lower one of which a ring, D, is screwed, and in the upper one a ring, G, is screwed. A bridge, *a*, of ring G, receives through it a valve-stem, C, on which is a valve, B, and a bridge, E, of ring D, receives through it the lower portion of the stem C. The valve-stem is thus properly guided, and the valve B is allowed to rise and descend freely, and to seat itself upon the ring D at the largest end of the upwardly-tapered bore. Between the valve B and the ring G is a spring, S, which is coiled around

the upper portion of the valve-stem, and which holds the valve down upon its seat. We have represented another spring, S', below the valve; but we do not deem this spring necessary, and when spring S is used we shall omit it, or, if spring S' is used, spring S will be omitted. To prevent valve B from rising too high and entirely shutting off the gas, a slight enlargement, *c*, is made on the valve-stem C, which will strike ring G just before the periphery of valve B touches the walls of the tapered bore of section A.

It will be seen from the above description that the higher the valve B is raised by the pressure of gas beneath it the smaller will be the space for the passage. As the gas-pressure diminishes the spring S forces the valve B toward its seat, and thus increases the space for the passage of the gas. By these means we secure an even pressure of gas at the burners, and prevent "blowing" and "flickering."

It is obvious that by the use of the spring or springs the governor can be in any desired position.

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

The screw-threaded pipe-section A, having a tapering orifice and carrying the rings D G, provided with perforated bridges, in combination with the spring-valve B and valve-rod C, with stop *c*, substantially as described, and for the purpose set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

FRANCIS M. DUNBAR.
NELLIE STOWELL.
EUGENE M. DUNBAR.

Witnesses:

ROBERT F. HILL,
VOLNEY N. LOCKWOOD.