No. 729,271. PATENTED MAY 26, 1903.

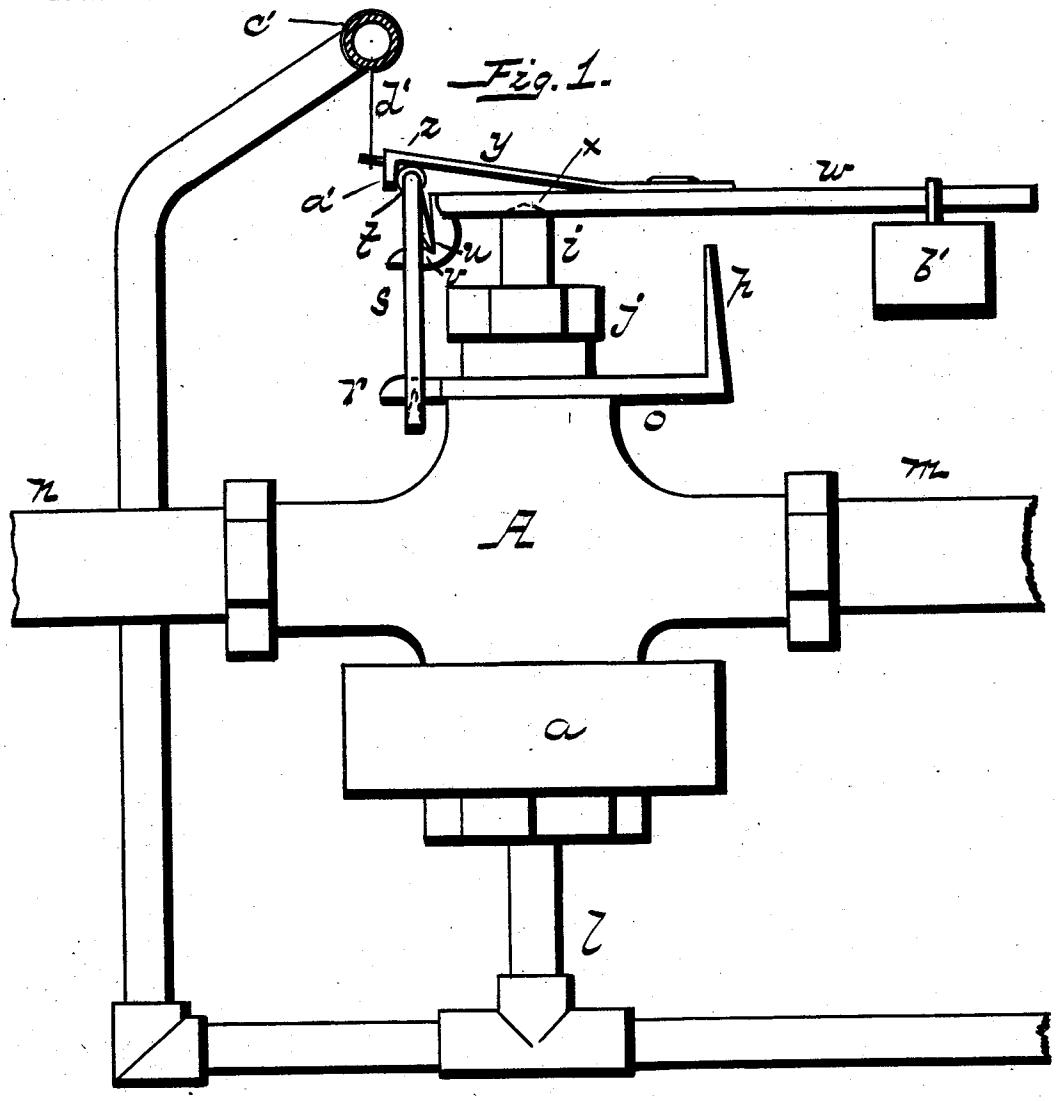
D. H. BUMPUS.

GAS GOVERNOR.

APPLICATION FILED SEPT. 10, 1902.

NO MODEL. 3 SHEETS—SHEET 1.

Fig. 1.



WITNESSES-

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T. R. Moore,

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D. H. Bumpus

by E. H. Bates Attorney-

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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NO MODEL. 3 SHEETS—SHEET 2.

Fig. 2.

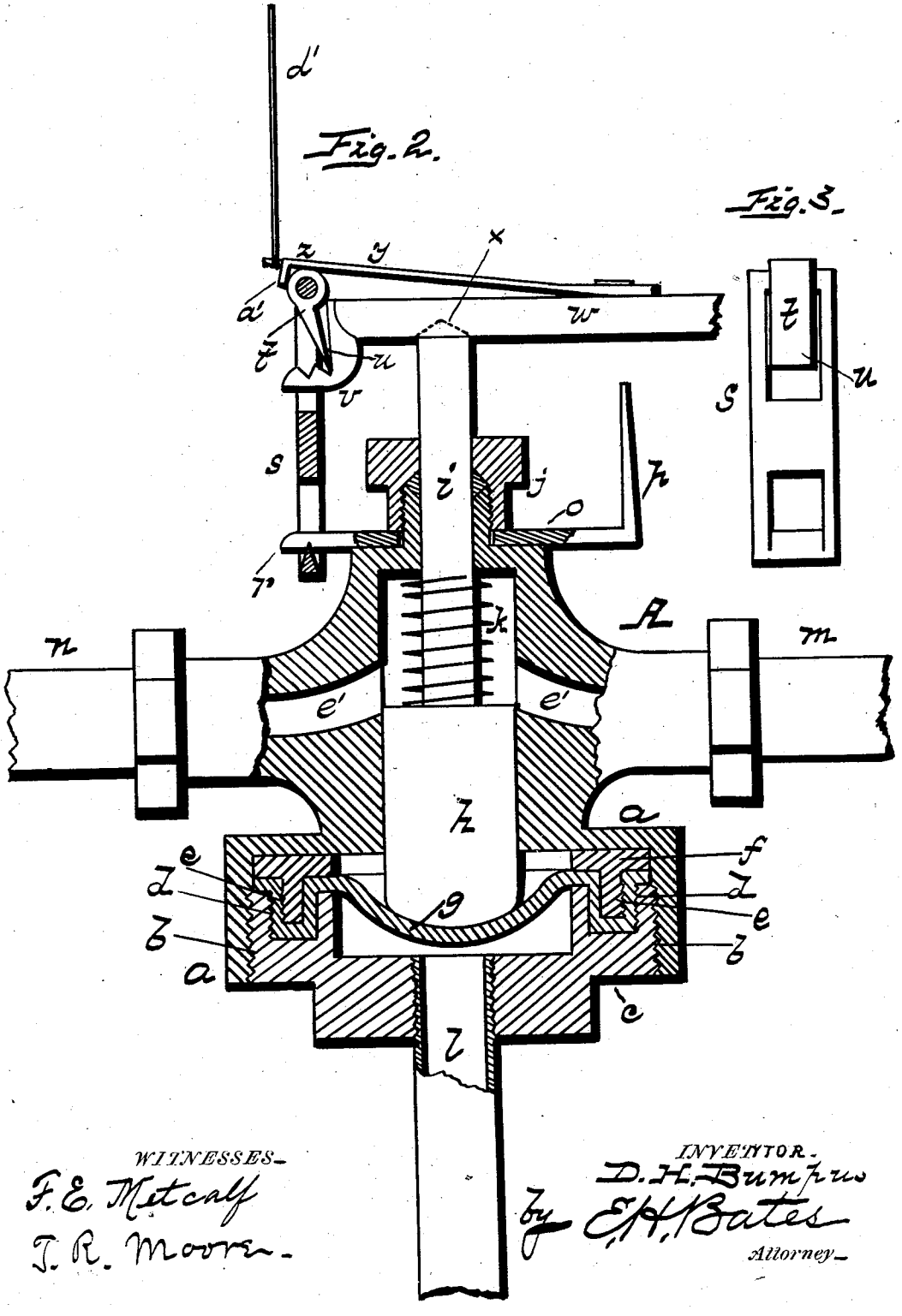


Fig. 3.

WITNESSES—

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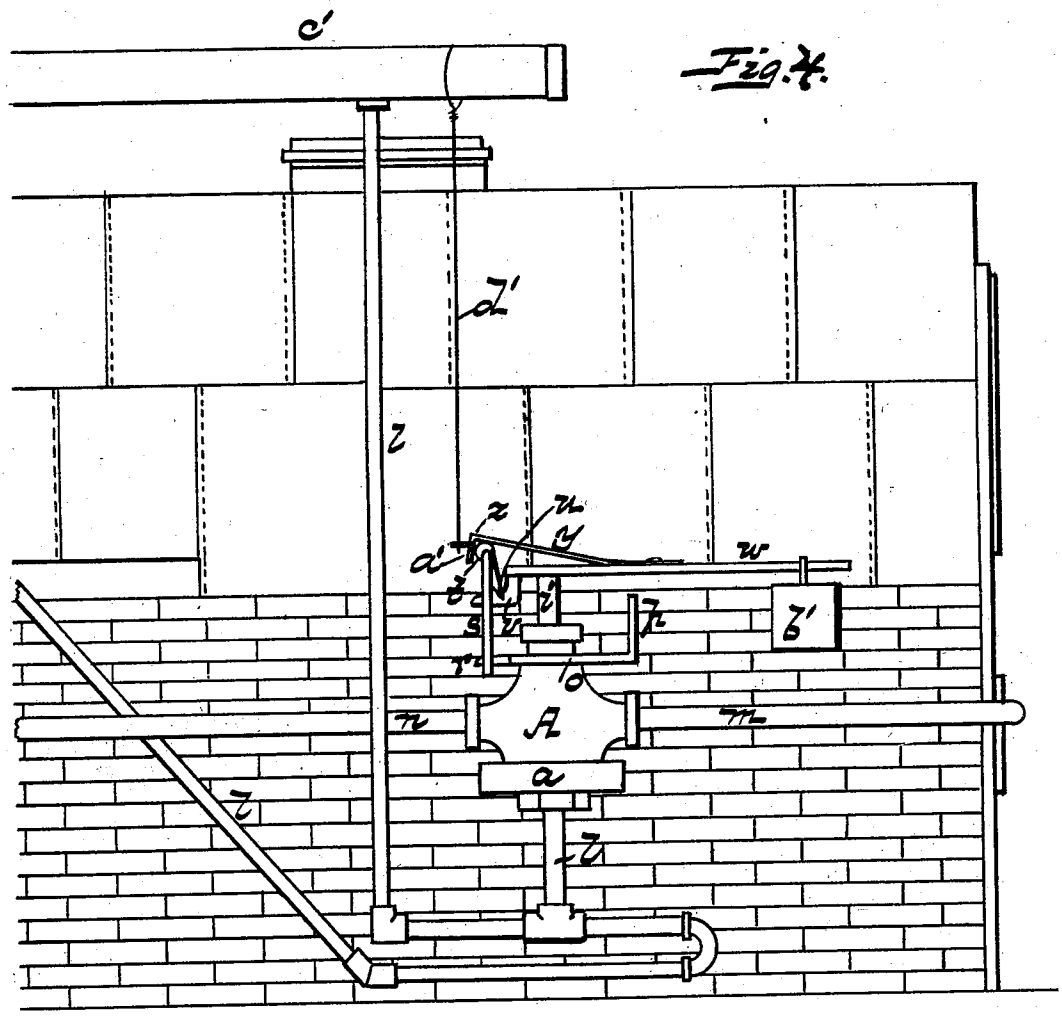
D. H. BUMPUS.

GAS GOVERNOR.

APPLICATION FILED SEPT. 10, 1902.

NO MODEL. 3 SHEETS—SHEET 3.

Fig. 4.



WITNESSES

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No. 729,271. Patented May 26, 1903.

UNITED STATES PATENT OFFICE.

DELOS H. BUMPUS, OF CENTERVIEW, OHIO, ASSIGNOR OF ONE-HALF TO JOHN W. HUTCHISON, OF CENTERVIEW, OHIO.

GAS-GOVERNOR.

SPECIFICATION forming part of Letters Patent No. 729,271, dated May 26, 1903.

Application filed September 10, 1902. Serial No. 122,790. (No model.)

To all whom it may concern:

Be it known that I, DELOS H. BUMPUS, a citizen of the United States, residing at Centerview, in the county of Monroe and State of Ohio, have invented certain new and useful Improvements in Gas-Governors; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention has relation to improvements in gas regulators or governors; and it consists in the novel construction, combination, and arrangement of parts of which it is composed, all as will be hereinafter fully explained, and particularly pointed out in the appended claims.

The annexed drawings, to which reference is made, fully illustrate my invention, in which—

Figure 1 represents a side view of my improved gas-regulator. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a detail view of the tripping mechanism. Fig. 4 is a side view of a furnace, showing my device applied thereto.

Referring by letter to the accompanying drawings, A is a valve-coupling, to the lower portion of which is cast an annular enlarged flange *a*, which is internally screw-threaded to receive the male screw-threads *b* on the drum *c*, which in turn is female screw-threaded, as at *d*, between which and the male screw-threads *e* of a ring *f* secures in position a diaphragm *g*, which at the upper portion of the drum engages the lower end of a valve *h*, the stem *i* of which passes upward and through a stuffing-box *j* at the top of the valve A and is provided with a coiled pressure-spring *k*, whereby the lower end of the valve or piston is kept in contact with the diaphragm *g*, and connected to the bottom of this drum is a steam-pipe *l*, which communicates with the interior of said drum, the passage *e'* in the coupling remaining open to permit the gas to pass from the inlet-pipe *m* to the outlet-pipe *n* to the fire-box of a furnace, where the gas is used as fuel. To the top of the coupling is arranged a horizontal bar *o*, having a central opening and an arm *p*, bent upwardly, and to the end *r* of this bar is attached one end of a link *s*, while the upper end thereof is pivoted to a dog or trigger *t*, having a pointed end *u*, that engages a notch in the horizontal portion *v* of a bent arm on the end of the long weight-beam *w*. This beam is supported upon the valve-stem *i*, the upper end of which is seated in a depression *x* in the beam, and secured to the upper face of this beam is a flat spring *y*, the free end *z* of which is provided with a downwardly-projecting hook *a'*, which, in connection with the downward pressure of the flat spring, holds the trigger in position, the weight *b'* being upon the opposite end of the beam.

Having thus described the various parts of which my device is composed, I will now proceed and explain its operation.

The device is designed particularly for furnaces using gas as a fuel, and the device is arranged at one side of the boiler. The coupling is connected to the gas-supply pipe, and the gas passes through the passage therein and out the other side through the outlet-pipe to the furnace. The amount of gas being fed to the furnace is increased or decreased, according to the pressure of steam from the boiler entering the pipe *l*, where it acts upon the diaphragm, which latter raises and lowers the piston, thus regulating the opening in the coupling for more or less gas to pass through. In shutting off the supply of gas entirely when the water is low in the boiler and there is danger the trigger of the beam is released and the weight and beam allowed to fall to the ground, thus closing the valve in the coupling. Connected to the steam-pipe is another steam-pipe *c'*, to which is connected one end of a wire *d'*, and the opposite end of this wire is tied to the free end of the flat spring, and when the water is low in the boiler the intense pressure of the steam will expand the pipe *c'* and by so doing it causes the wire to draw the free end of said spring upward, thus releasing the trigger from the hooked end thereof and the notch in the end of the beam thereby permitting the link, beam, and weight to fall to the floor or ground. At the same time the pis-

ton is relieved from pressure and is caused to rise and close the gas-passage in the coupling by the pressure of steam upon the diaphragm, thus shutting off the supply of gas from the furnace.

It will be readily observed from the above description, when taken in connection with the accompanying drawings, that by my construction of such a device the gas is automatically fed and the flow is regulated, and when there is danger where the supply of water is low the supply of gas is shut off entirely, and a device, as herein described, is simple in operation and at the same time cheap to manufacture.

What I claim is—

1. In a gas-governor the combination with the drum having the diaphragm and steam-inlet pipe of the coupling provided with the flange and piston or shut-off valve; the horizontal arm arranged upon the top of the coupling, the link engaging the end *r* of the arm *o* by its lower end and the trigger interposed between the spring and notched arm and the spring engaging the top of the link and trigger, and beam having the notch at one end and weight at the opposite end and a wire attached to the free end of said spring for drawing the spring, whereby the trigger and link are released, all substantially as described.

2. The within-described gas-governor comprising coupling provided with the piston or shut-off valve and stuffing-box for the stem thereof the female screw-threaded annular flange forming a part thereof, the drum provided with the male and female screw-threads, the ring having the male threads, the diaphragm secured in position between said ring and drum, the steam-pipe connected to the drum, the beam supported upon the upper end of the valve-stem carrying the weight, the horizontal arm secured to the top of the coupling and the releasing device composed of the link, trigger, pivoted thereto and flat spring, one end secured to the beam and the opposite free end engaging the upper end of the trigger and link, said beam provided with the notch engaged by the lower end of the trigger, and the wire for raising the free end of the spring whereby the link, trigger and beam are released, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

DELOS H. BUMPUS.

Witnesses:

CHARLES L. DUNHAM,

HAMILTON WHITE.