

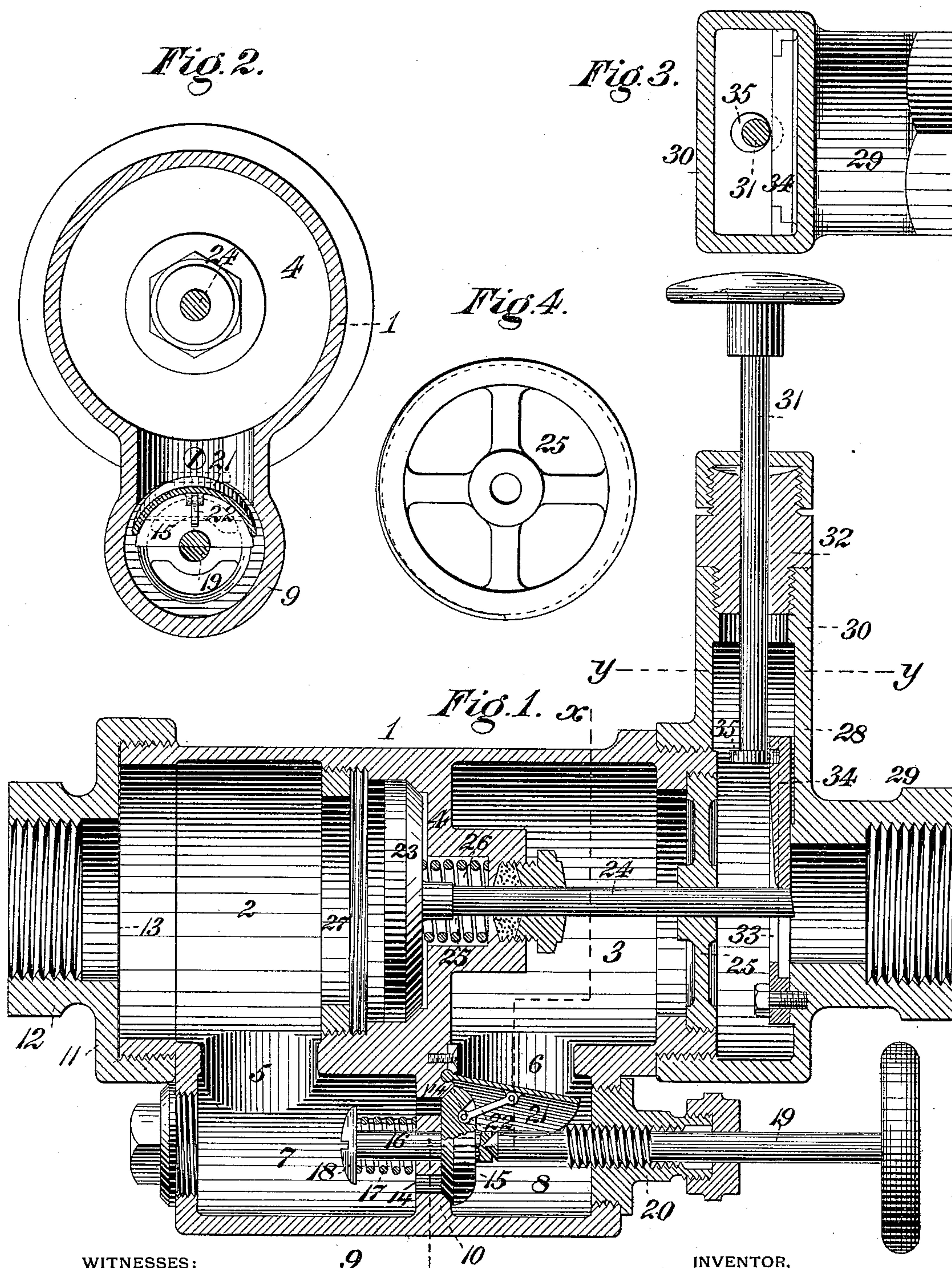
(No Model.)

J. H. CURRY.

GAS REGULATOR.

No. 364,992.

Patented June 14, 1887.



WITNESSES:

E. M. Clarke
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INVENTOR,

James H. Curry
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UNITED STATES PATENT OFFICE.

JAMES H. CURRY, OF WILKINSBURG, PENNSYLVANIA.

GAS-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 364,992, dated June 14, 1887.

Application filed December 2, 1886. Serial No. 220,440. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. CURRY, residing at Wilkinsburg, in the county of Allegheny and State of Pennsylvania, a citizen of the United States, have invented or discovered certain new and useful Improvements in Gas-Regulators, of which improvements the following is a specification.

In the accompanying drawings, which make part of this specification, Figure 1 is a sectional elevation of my improved fluid regulator and cut-off. Fig. 2 is a transverse sectional view, the section being taken on the line *x x*, Fig. 1. Fig. 3 is a similar view on the line *y y*, Fig. 1. Fig. 4 is a detail of the guide-frame for the cut-off plunger.

The invention herein relates to certain improvements in that class of devices which are employed for the regulation of the flow of gas, and also for the prevention of the escape of gas from the burners on a restoration of the flow, which had been stopped or reduced to such an extent as to extinguish the flame at the burners; and to this end the invention consists in the construction and combination of parts, substantially as hereinafter more fully described and claimed.

In the practice of my invention I form a shell or case, 1, divided into two compartments, 2 and 3, by the partition 4, said compartments or chambers 2 and 3 being provided with openings 5 and 6, communicating with the chambers 7 and 8, formed in the auxiliary shell or case 9 by the partition 10. The end of the shell or case 1, having chamber 2, is closed by the cap 11, provided with the internally-threaded nozzle 12, for attachment to the service-pipe. A wire-gauze diaphragm or netting, 13, is secured between the end of the case and the cap for the purpose of preventing the entrance of dirt or other foreign substances into the valve. The partition 10 of the auxiliary case 9 is provided with passages 14, connecting the chambers 7 and 8, said passages being opened and closed by a valve, 15, provided with a stem, 16, projecting through a central opening in the partition, said valve being held to its seat as against a pressure of gas below normal or safety by a spring, 17, surrounding the stem and bearing at its ends against the partition and the head of a screw or other suit-

able shoulder, 18, on the end of the stem. The movement of the valve 15, when the gas-pressure is at or above normal, is regulated by a threaded rod, 19, passing through a threaded opening in the cap 20, closing the end of the auxiliary shell 9, said rod being provided with a conical point bearing upon a suitably-shaped seat in the valve 15.

In order to maintain the flow of gas into the compartment 3 on its way to the distributing-pipes independent of the position of the valve 15 with relation to its seat, a disk, 21, is hinged at one side of the opening 6, connecting the compartments 8 and 3. This disk, which is constructed to close the opening 6, is connected by a link, 22, or other suitable means—*e. g.*, a slot and pin—to the valve 15, said valve and disk being connected in such relation to each other that the disk is moved toward its seat as the valve 15 is moved away from its seat, thus preventing an increased flow of gas beyond a certain predetermined volume, in accordance with which the valve and disk are adjusted.

Within the chamber or compartment 2 is arranged a piston, 23, provided with a stem or rod, 24, passing through the partition 4, and a guide-frame, 25, in the chamber 3. Around the stem 24 is placed a spring, 26, bearing at its ends against the piston and the partition, the tension of said spring being adjusted in accordance with the normal or safety pressure of the gas. The movement of the piston when actuated by the spring is limited by a ring, 27, suitably attached to the walls of the compartment 2. The guide frame or ring 25, consisting of an annulus exteriorly-threaded and a central ring or collar connected to the annulus by radial arms or spokes, is screwed into the end of the chamber 3. The end of the case or shell in which the chamber 3 is formed is closed by a cap, 28, provided with an interiorly-threaded nozzle, 29, for connection with the distributing-pipes, and with a lateral extension, 30, through which passes a rod or stem, 31, surrounded at the outer end of the extension by a tightly-fitting plug, 32, said plug screwing into the extension and forming a tight joint around the stem 31. On opposite sides of the nozzle-opening and inside the cap are formed ways 33, in which is mounted the slide or plate 34, adapted to close said nozzle. This slide or

plate is provided at its upper end with a notch or other equivalent device, and on the rod or stem 31 is formed an eccentric projection, 35, which can be caused to engage the notch in the plate by the rotation of the stem 31, and when such engagement has been effected the slide or plate can be pulled away from the nozzle by the rod or stem.

In using my device, the slide or plate 34 is raised into the position shown by the stem 31. Gas is then admitted into the chamber 2, thereby forcing the piston 23 toward the partition 4, and thrusting the end of the rod 24 under the slide or plate, from which the rod 31 is then disengaged, allowing the slide to be supported by the rod 24. The valve 15 is then opened, allowing the gas to flow through to the distributing pipes. As long as the pressure of gas remains at or above normal or safety the rod 24 will be held under the slide or plate; but as soon as the pressure falls below safety the piston and rod will be actuated by the spring 26, thereby allowing the slide to drop over the end of the nozzle 29, and preventing any flow of gas to the distributing pipes on a restoration of pressure until an attendant has raised the slide or plate 34.

In the construction shown in the drawings

the device is intended to be used while in a horizontal position; but by applying a spring to the plate 34, so as to force the plate over the nozzle when the rod 24 is withdrawn, the device may be used in any position.

I claim herein as my invention—

1. In a gas-regulating device, the combination of the slide valve or plate 34, a piston, 23, having the stem 24, and a spring operative upon the piston against the pressure of the gas, substantially as set forth.

2. In a gas-regulating device, the combination of the valve 15 and the disk or flap valve 21, connected to and operated by the valve 15, substantially as set forth.

3. In a gas-regulating device substantially as shown, the combination of the slide valve or plate 34, having a notch therein, and the movable stem or rod 31, provided with a projection or eccentric for engagement with said notch, substantially as set forth.

In testimony whereof I have hereunto set my hand.

JAMES H. CURRY.

Witnesses:

DARWIN S. WOLCOTT,
R. H. WHITTLESEY.