(No Model.)

C. PATTRELL.

GAS REGULATOR.

No. 369,467. Patented Sept. 6, 1887.

Fig. 1

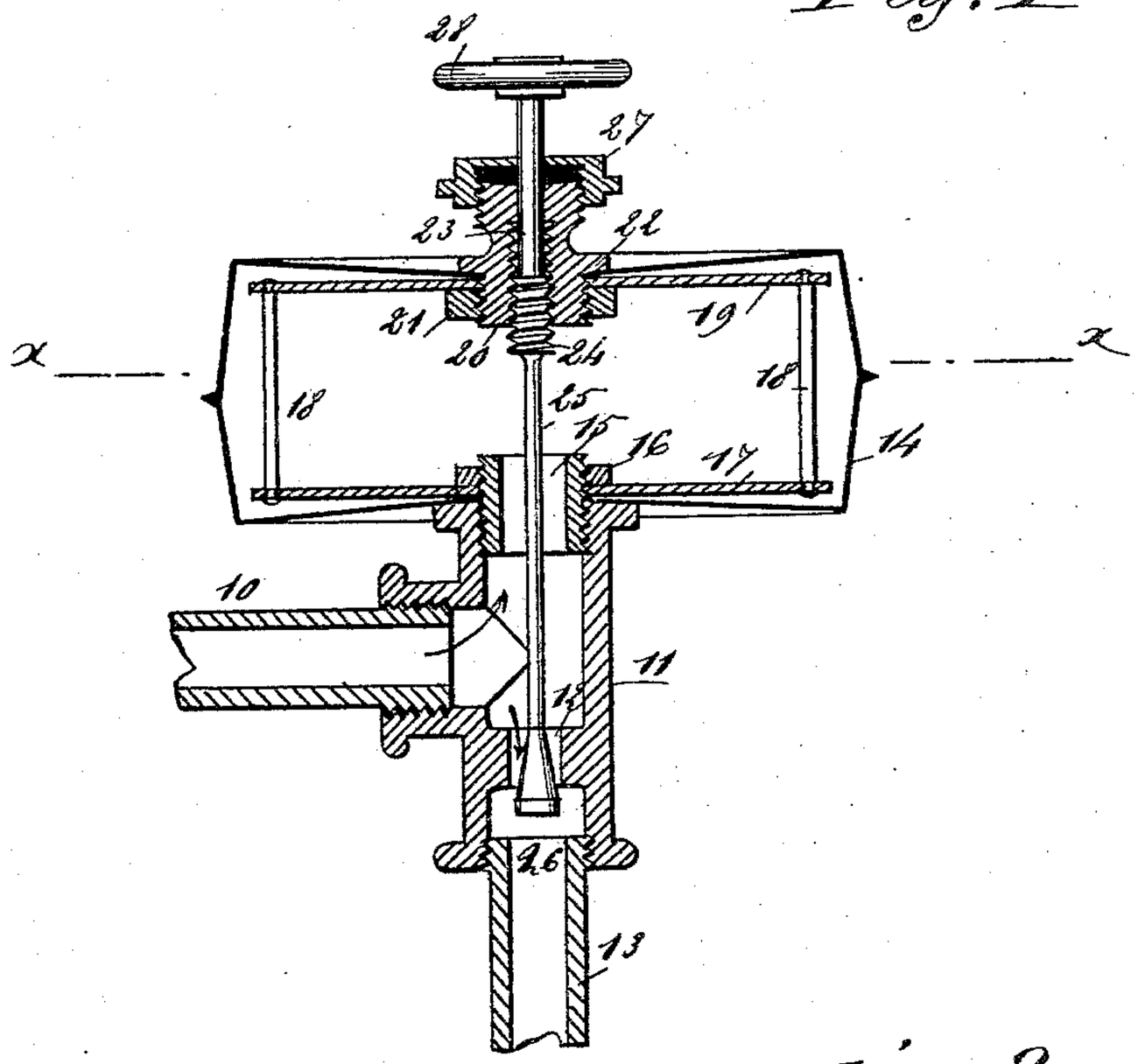
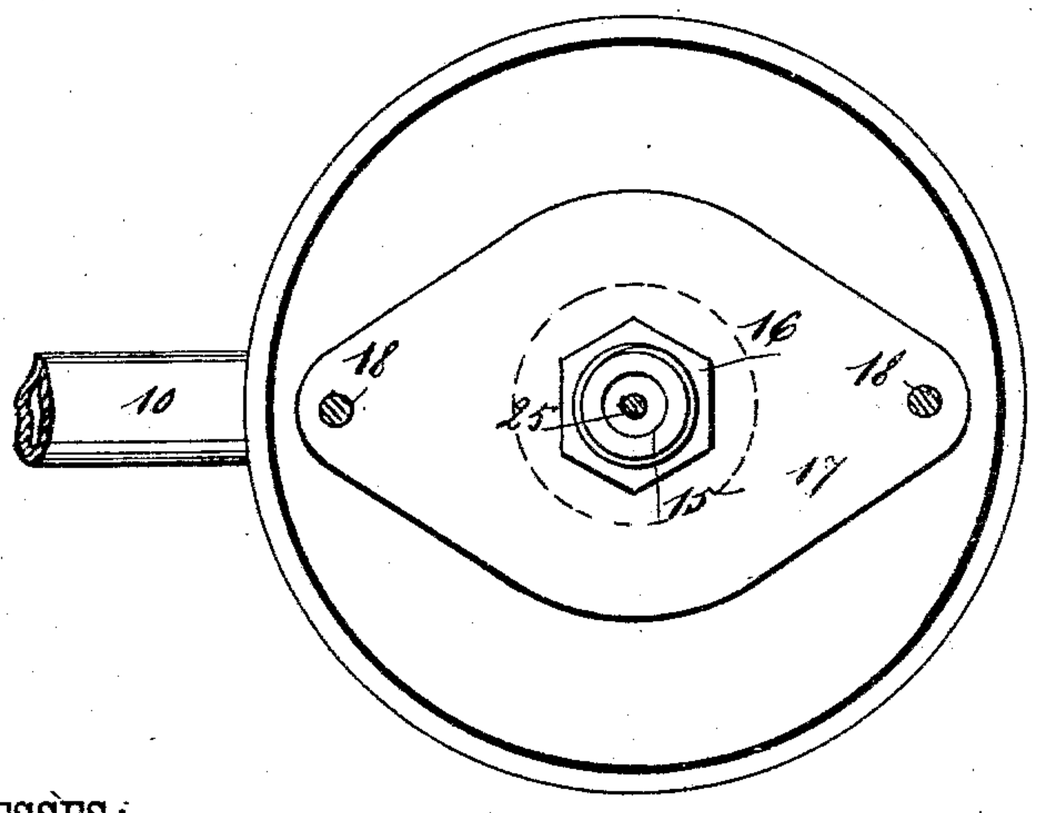


Fig. 2



WITNESSES:

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CARY PATTRELL, OF DERRICK CITY, PENNSYLVANIA.

GAS-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 369,467, dated September 6, 1887.

Application filed April 23, 1887. Serial No. 235,858. (No model.)

To all whom it may concern:

Be it known that I, CARY PATTRELL, of Derrick City, in the county of McKean and State of Pennsylvania, have invented a new and Improved Gas-Regulator, of which the following is a full, clear, and exact description.

This invention relates to a gas-regulating attachment whereby the gas delivered to a building, in connection with the gas-distributing system of which the device is employed, will be automatically regulated as to quantity and pressure, all as will be hereinafter described, and specifically pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in both the views.

Figure 1 is a central vertical sectional view of my improved form of gas-regulator, and Fig. 2 is a sectional view taken on line *x x* of Fig. 1.

In the drawings, 10 represents a delivery-pipe leading to the gas-main, to which there is connected a T-coupling, 11, formed with a valve-seat, 12, and arranged for connection with a supply-pipe, 13, through which the gas passes in entering the building.

To the upper end of the coupling 11, I connect a metallic case, 14, said case being apertured to receive a coupling bushing, 15, which engages with the T-coupling 11, and is in turn engaged by a clamping-nut, 16, a spring-plate, 17, being placed between the bottom of the casing 14 and the nut 16. This spring-plate 17 carries two posts or standards, 18, to the top of which there is secured a second spring-plate, 19, that is held to the top of the case 14 by a coupling, 20, which passes through the top of the case and through the spring-plate 19, to be engaged by a nut, 21, which nut is turned home to clamp the top of the case against an annular flange, 22, that is formed on the coupling 20.

The coupling 20 is formed with a central aperture, 23, a portion of which aperture is threaded in order that it may be engaged by a thread, 24, that is formed on a valve-stem, 25, the valve, 26, carried by said stem being arranged in connection with the seat 12 of the coupling 11. The stem 25 extends out through a stuffing-box, 27, that is secured to the coupling 20, and upon the extending end of the stem there is mounted a hand-wheel, 28.

Such being the general construction of my improved gas-regulator, the operation is as follows: Gas, entering through the pipe 10, finds it way to the chamber within the case 14, and thence downward to the delivery-pipe 13, passing at this time about the valve 26. If the pressure in the gas-mains is increased, the top and bottom of the case 14 are forced apart against the tension of the spring-plates 17 and 19, and the valve 26 is carried toward its seat, and consequently a diminished supply of gas is delivered to the pipe 13, and the flame of the jets within the building in connection with which the regulator is arranged will be maintained at the required height, the springs 17 and 19 acting to draw the top and the bottom of the case 14 to the position in which it is shown in Fig. 1 as the pressure in the gas-mains diminishes, so that as the pressure diminishes the valve 26 is moved from its seat and a larger amount of gas is delivered to the pipe 13 and thence to the burners within the building, the amount of gas delivered being regulated by adjusting the valve 26 toward or from its seat, which may be done by turning the hand-wheel 28 so as to move the valve-stem upward or downward.

It will of course be understood that my regulator could be used in connection with a single gas-stove as well as with the whole gas system within a building.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the T-coupling 11, having the valve-seat 12 to one side of its inlet-opening, of the expansible casing connected to the end of the coupling opposite the valve-seat, a stuffing-box in the upper side of the casing in alignment with the valve-seat, and a screw-stem passing through the stuffing-box and casing into the coupling, and provided with a valve closing inward toward the casing against the seat, substantially as set forth.

2. The combination, with a coupling arranged for connection with a supply and delivery pipe, of a case connected to the coupling, spring-plates connected by posts and ar-

ranged within the case, and a valve adjustably connected to the case, substantially as described.

3. The combination, with a coupling, 11, arranged for connection with a supply and delivery pipe and formed with a valve-seat, 12, of a case, 14, a bushing, 15, a plate, 17, a nut, 16, arranged in connection with the bushing 15, posts 18, carried by the plate 17, a spring, 19, carried by said posts, a coupling, 20, passing through the top of the case 14 and through the spring 19, a nut, 21, arranged in connection with the coupling, a valve-stem, 25, carrying a valve, 26, and formed with a thread, 24, that engages with a threaded aperture formed in the coupling 20, a stuffing-box, 27, through which the valve-stem passes, and a hand-wheel carried by the valve-stem, substantially as described.

CARY PATTRELL.

Witnesses:
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