No. 815,179. PATENTED MAR. 13, 1906.

L. F. KNODERER.

REGULATING VALVE FOR GAS BURNERS.

APPLICATION FILED AUG. 28, 1905.

Fig. 1.

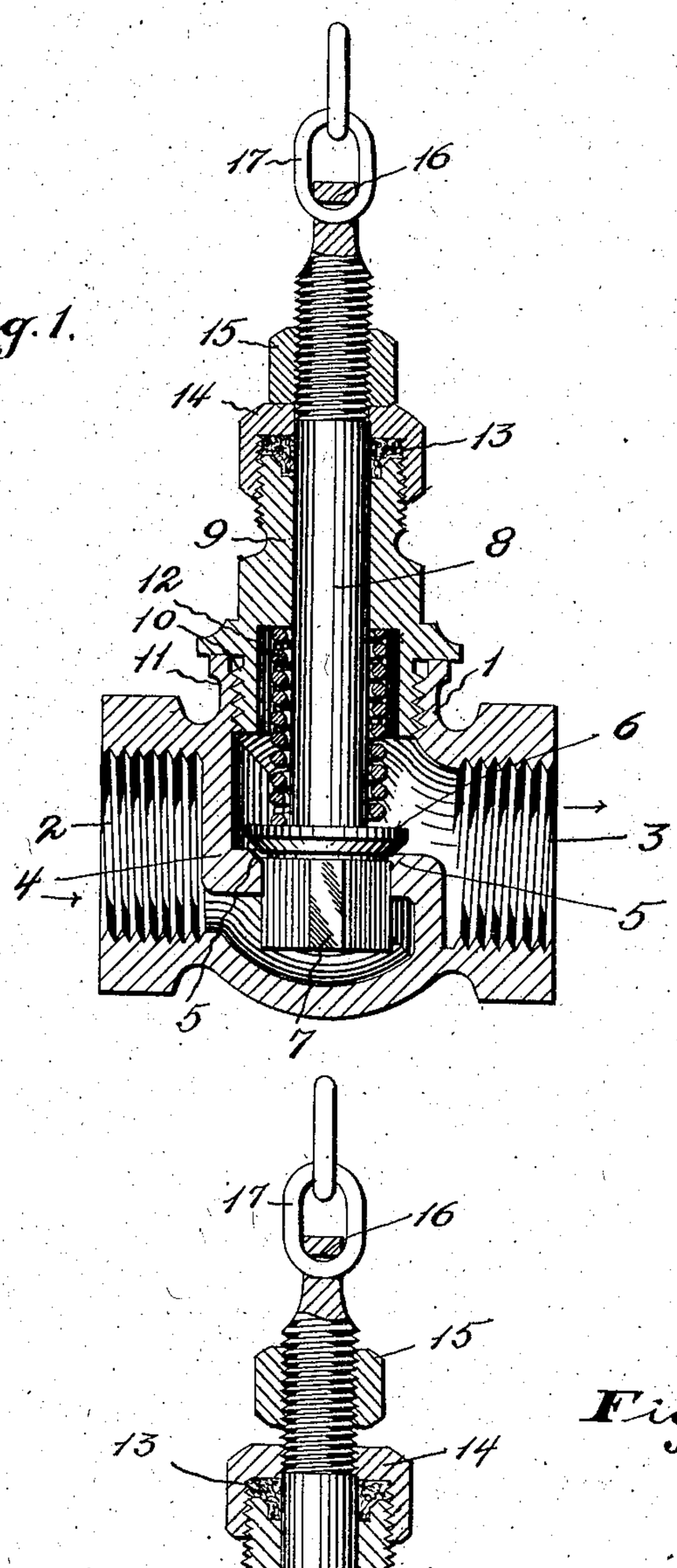
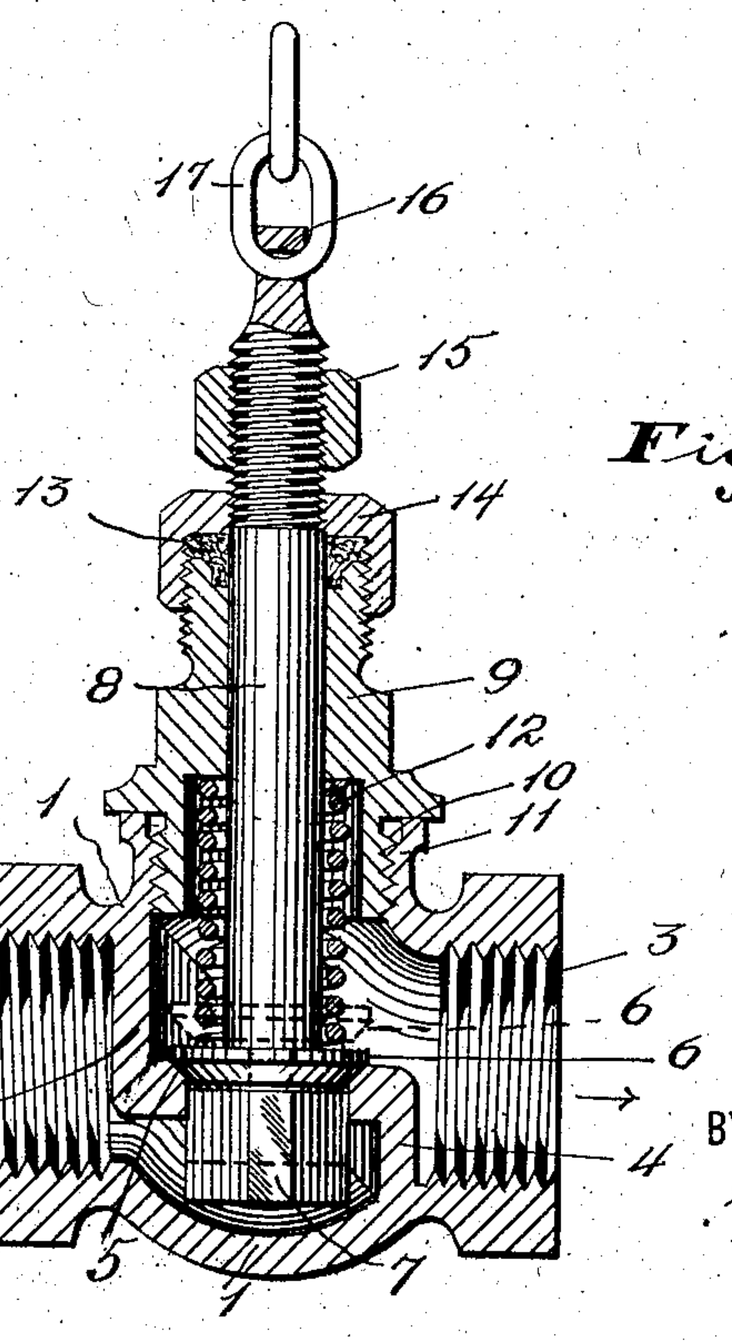


Fig. 2.



WITNESSES:

Carl Stoughton

W. B. Eckley

INVENTOR

Levi F. Knoderer

BY

Shepherd & Paine

ATTORNEYS

UNITED STATES PATENT OFFICE.

LEVI F. KNODERER, OF COLUMBUS, OHIO.

REGULATING-VALVE FOR GAS-BURNERS.

No. 815,179. Specification of Letters Patent. Patented March 13, 1906.

Application filed August 28, 1905. Serial No. 276,006.

To all whom it may concern:

Be it known that I, LEVI F. KNODERER, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Regulating-Valves for Gas-Burners, of which the following is a specification.

My invention relates to new and useful improvements in regulating-valves for gas-burners.

The object of the invention is to provide a valve with means whereby the same is prevented from entirely closing, so as to allow a supply of gas flowing in the regular direction for maintaining a pilot-light, the said means being adjustable so that the amount of gas supplied to the pilot-light may be regulated and so that the valve may be entirely closed, if desired. By so constructing the valve all by-pipes, such as are employed for leading a supply of gas to the pilot from the valve-chamber after the valve is closed, are obviated, and a simple and compact device is provided.

Finally, the object of the invention is to provide a device of the character described that will be strong, durable, and efficient and one in which the several parts will not be liable to get out of working order.

With the above and other objects in view the invention consists of the novel details of construction and operation, a preferable embodiment of which is described in the specification and illustrated in the accompanying drawings, wherein—

Figure 1 is a longitudinal vertical sectional view of the valve-casing, showing the valve partly open to supply the pilot-light; and Fig. 2 is a similar view showing the valve entirely closed and indicating its full open position in dotted lines.

In the drawings the numeral 1 designates the valve-casing, which is provided at one end with an internally-threaded inlet 2 and at the other end with an internally-threaded outlet 3. The casing is divided by a wall 4, in the horizontal portion of which an annular valve-seat 5 is provided. A conical valve 6, having downwardly-projecting guiding-wings 7, is arranged to close on the seat 5, the wings passing through the dividing-wall and maintaining the valve in alinement during its movement. A stem 8 extends upwardly from the valve 6, passing through a guide-sleeve 9, which is recessed at its lower end and provided with external screw-threads 10, which engage with an internally-screw-threaded collar 11, formed on the casing 1. A coiled spring 12 is confined about the stem 8 between the valve 6 and the recessed portion of the sleeve 9, said spring being under tension and acting to force the valve to its seat. At its upper end the sleeve 9 is provided with a suitable stuffing-box 13, which is covered by a screw-threaded cap-nut 14, engaging with the sleeve and having the stem passing through its central portion. That portion of the stem projecting beyond the cap 14 is screw-threaded and receives an adjusting-nut 15, which is adapted to impinge on the cap and prevent the valve 6 from closing on the valve-seat 5 when it is desired to allow sufficient gas to pass through the valve-casing to maintain a pilot-light. The extreme upper end of the valve-stem is provided with an eye 16, which receives a chain 17, by which the valve is manipulated.

In the class of furnaces and heaters with which my valve is designed to be used it is customary to provide a suitable regulating means, which is connected with the valve and the parts thereof for controlling the same. Some means is always provided to convey a supply of gas to the burners to maintain a pilot-light when the supply is cut off in the burners proper, the pilot-light serving to light the burners when the supply-valve is opened, the intensity of the flame of the burners being governed by the supply of gas which is controlled by the regulating mechanism through the valve. With my valve instead of leading a supply of gas from the casing about the inlet after the valve is closed to maintain the pilot I adjust the nut 15 so that the valve 6 will not close on its seat 5, thus allowing a supply of gas to flow through the valve-seat and out of the outlet 3 in the regular way. The nut 15 can be minutely adjusted so as to control the supply of gas to the pilot. The chain 17 being connected with the regulating mechanism will be drawn up, thus raising the valve and permitting a greater supply of gas to pass through the casing when it becomes necessary to light the burners. Should it be desired at any time to have the valve entirely closed on its seat, the nut 15 may be turned on the valve-stem, as shown in Fig. 2, thus permitting the valve to freely seat. It is to be noted that the adjusting-nut in no way interferes with the opening of the valve, but is provided

solely for the purpose of controlling the seating thereof.

I consider the simplicity of my valve one of its vital points and also the provision whereby the valve may be partially or entirely closed.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination with a valve-casing having a dividing-wall provided with a valve-seat, of a reciprocating valve arranged above the seat and adapted to close down thereon, a stem extending upwardly from the valve passing through and projecting above the upper end of the valve-casing, a spring coiled about the valve-stem and confined between the valve and the upper end of the valve-casing, that portion of the valve-stem projecting above the valve-casing being screw-threaded, and a nut engaged with the threaded portion of the valve-stem adapted to contact with the valve-casing to prevent the valve from seating against the tension of the coiled spring and arranged to be adjusted to permit the valve to close on the seat.

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

L. F. KNODERER.

Witnesses:
A. L. PHELPS,
M. B. SCHLEY.