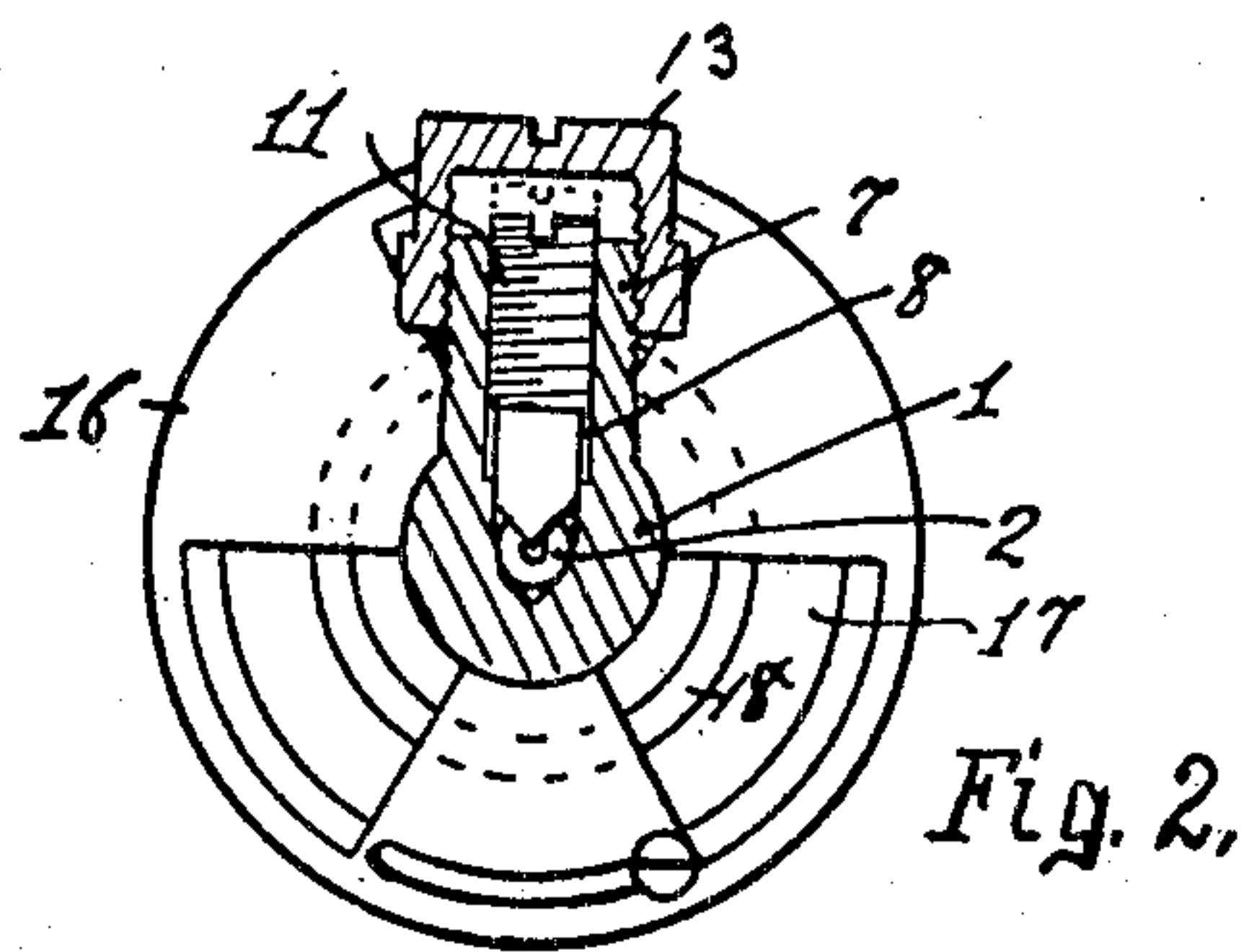
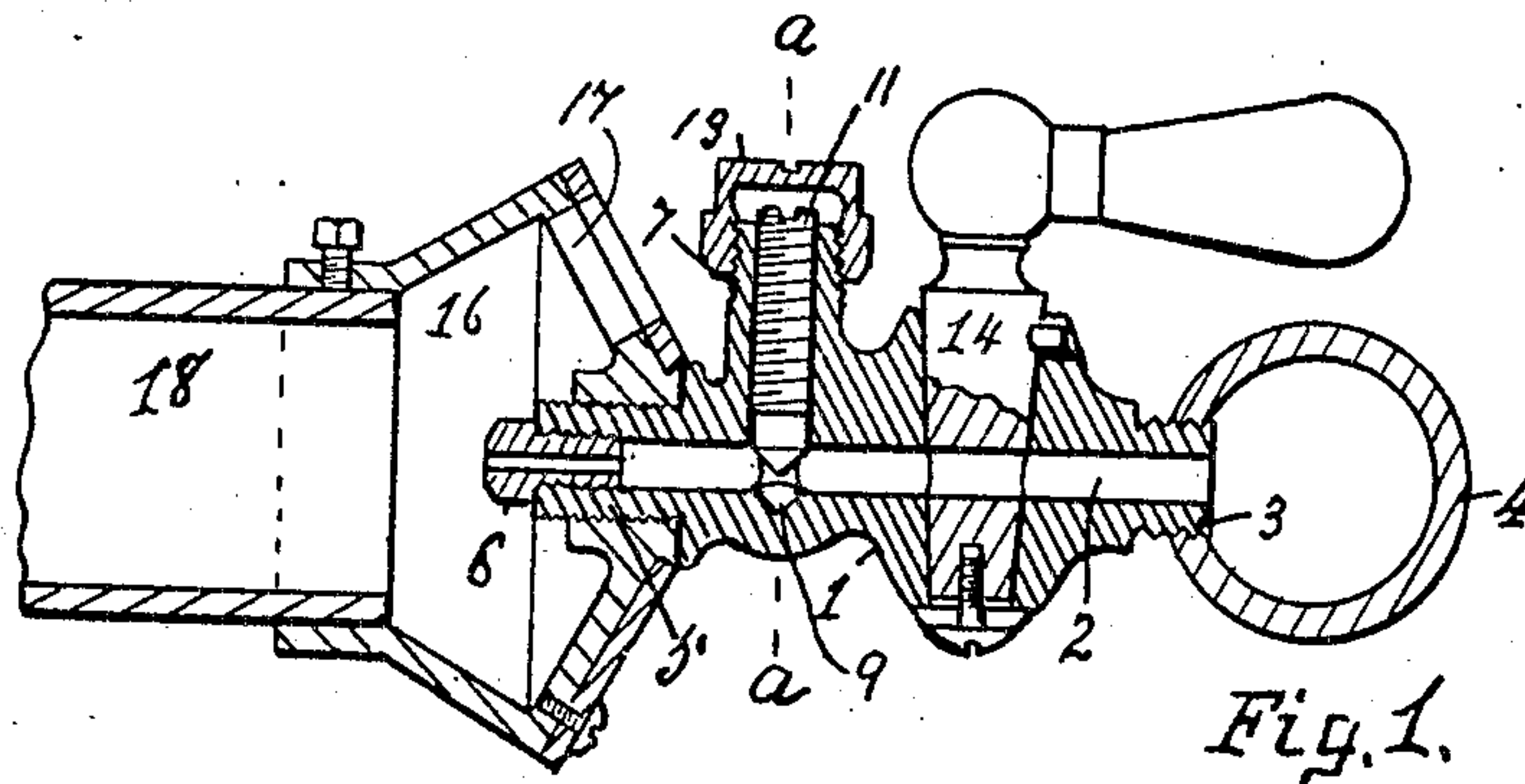


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PATENTED APR. 9, 1907.

M. W. LONGFELLOW.
PRESSURE REGULATOR FOR GAS COCKS.
APPLICATION FILED AUG. 1, 1906.



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UNITED STATES PATENT OFFICE.

MARTIN W. LONGFELLOW, OF HAMILTON, OHIO.

PRESSURE-REGULATOR FOR GAS-COCKS.

No. 849,406.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed August 1, 1906. Serial No. 328,750.

To all whom it may concern:

Be it known that I, MARTIN W. LONGFELLOW, a citizen of the United States, residing at Hamilton, Butler county, Ohio, have invented a new and useful Improvement in Pressure-Regulators for Gas-Cocks, of which the following is a specification.

My invention relates to pressure-regulators for gas-cocks of the class adapted to use on gas-stoves or elsewhere; and the objects of my improvement are to provide adjustable means for maintaining a modified predetermined pressure of the gas at the discharge-nozzle, to provide means for discharging the gas from a nozzle in an unbroken stream instead of in the form of spray, and to provide facility of operation and efficiency of action together with a cheap, compact, and durable construction. These objects are attained in the following-described manner, as illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section of my improved regulator as applied to a lever gas-cock; Fig. 2, a transverse section on the line *a a* of Fig. 1.

In the drawings, 1 represents the body portion of my device, which is preferably cylindrical in form and provided with an axial gas-passage 2 and with a nipple 3 on one end, whereby it may be removably secured to a stringer-pipe 4 of a gas-stove. (Not shown.) A similar nipple 5, formed on the opposite end of the body, is provided with a nozzle 6, which is adjustably secured in the axial line of passage 2 and forms a contracted straightway and extensible discharge-opening for the gas therefrom.

A nipple 7, formed on the side of the body portion, contains an axial opening 8, which is extended across passage 2 a short distance from the nozzle therein and terminates in a seat 9 on the opposite side thereof. Regulating-pin 11, adjustably threaded in opening 8 and formed with a taper point 12, may be adjusted to throttle passage 2 more or less, as desired, and it may be protected from being tampered with by means of cap 13, which is removably secured thereover on nipple 7.

For the purpose of completely opening or closing passage 2 the body portion may be provided with the usual lever-stem 14 of a straightway cock adjacent to the stringer-pipe, as shown in Fig. 1.

An air-chamber 16, provided with ad-

justable inlet-openings 17, is removably secured on nipple 5 concentric with the nozzle, and a mixing tube or chamber 18 is removably secured at one end therein with its axis in the line of passage 2 and of the opening in the nozzle, and which communicates at its other end with the burner (not shown) of a gas-stove.

In operation the pressure of the gas from even the same source is different in the stringer-pipes of stoves in different locations, and especially elevations. The pressure of the gas in the stringer-pipe, however, is substantially constant with the stove in the same location. To economize the use of gas and still obtain its greatest efficiency, a predetermined pressure, usually below that in the stringer-pipe, should not be exceeded at the nozzle. For this purpose the regulating-pin may be adjusted to properly throttle the gas-passage in relation to the pressure in each stringer-pipe and in relation to the size of the discharge-opening in the nozzle. When the desired maximum predetermined pressure at the nozzle is secured in this manner, the regulating-pin may be protected by means of the removable cap thereover, and either the lever-stem or a needle-valve may be used to open the gas-passage and admit the gas under full pressure thereto from the stringer-pipe. Should the pressure of the gas in the stringer-pipe for any reason be equal to or less than the desired pressure at the nozzle, the regulating-pin may be adjusted out of interference with the gas in its passage from the stringer-pipe to the nozzle.

In the absence of the usual sharp angles or of needle-valves the straight passage permits the gas to flow from the stringer-pipe to the nozzle with the least obstruction and to be discharged therefrom in a solid stream for obtaining the greatest efficiency at the burner. The same efficiency at the burner may be obtained and with a lower pressure when the gas is discharged from the nozzle in an unbroken stream instead of in the form of spray. The unbroken stream from the nozzle into the air-chamber, like the action of an injector, effects a thorough mixture and delivers the fuel to the burner under more pressure than is possible with a broken stream or spray.

Having described my invention, I claim—

A new article of manufacture for gas-

regulators, a longitudinally-bored, substantially cylindrical body, each end of which is exteriorly screw-threaded and one end is interiorly threaded, and the intermediate portion is transversely perforated adjacent to one end and provided with an interiorly and exteriorly threaded hollow nipple adjacent

to the other end, said hollow being extended across said bore and terminating in a recess.

MARTIN W. LONGFELLOW.

Witnesses:

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