

No. 786,769.

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P. KELLER & P. SEILER.
PRESSURE REGULATOR.
APPLICATION FILED DEC. 27, 1904.

Fig. 1.

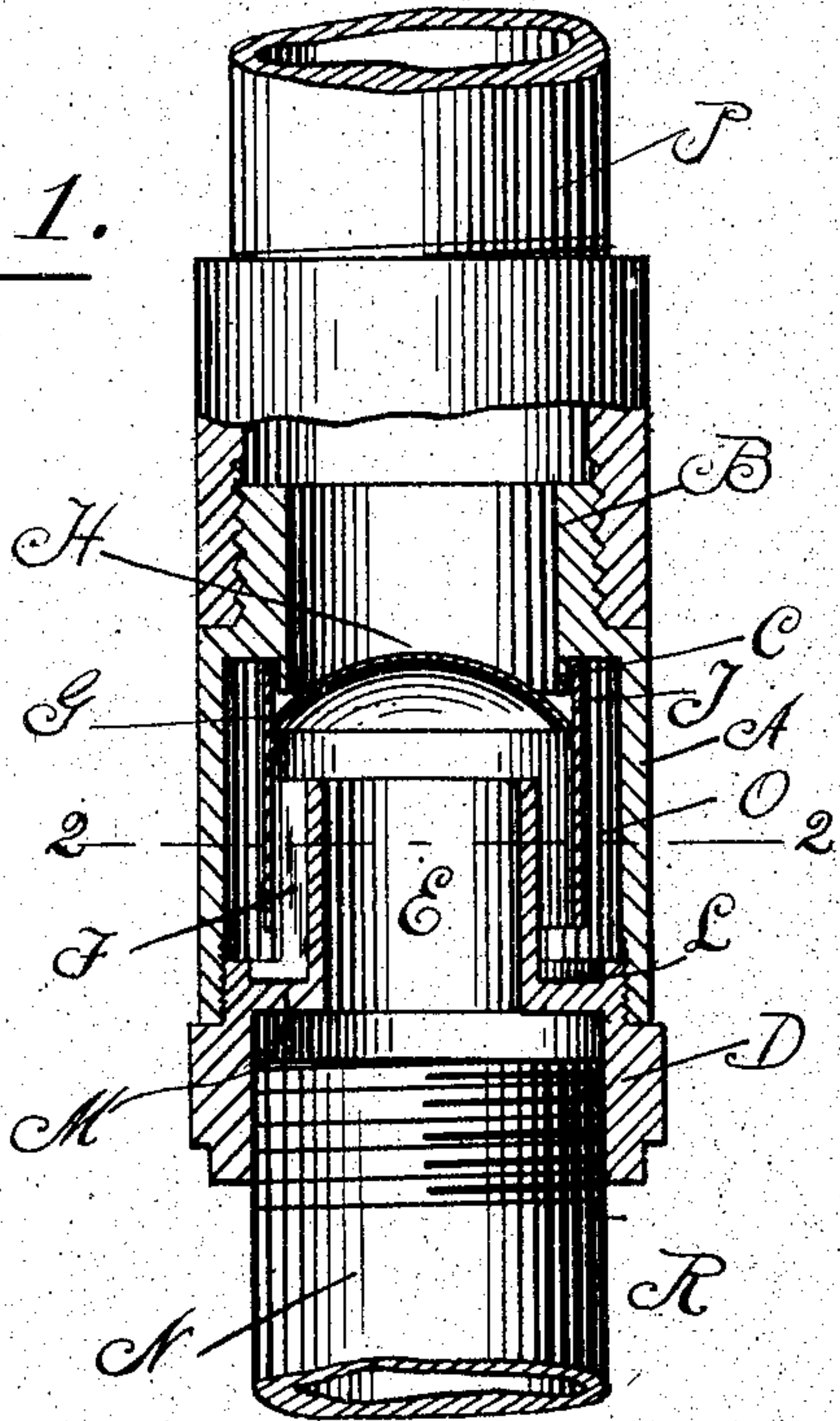


Fig. 2.

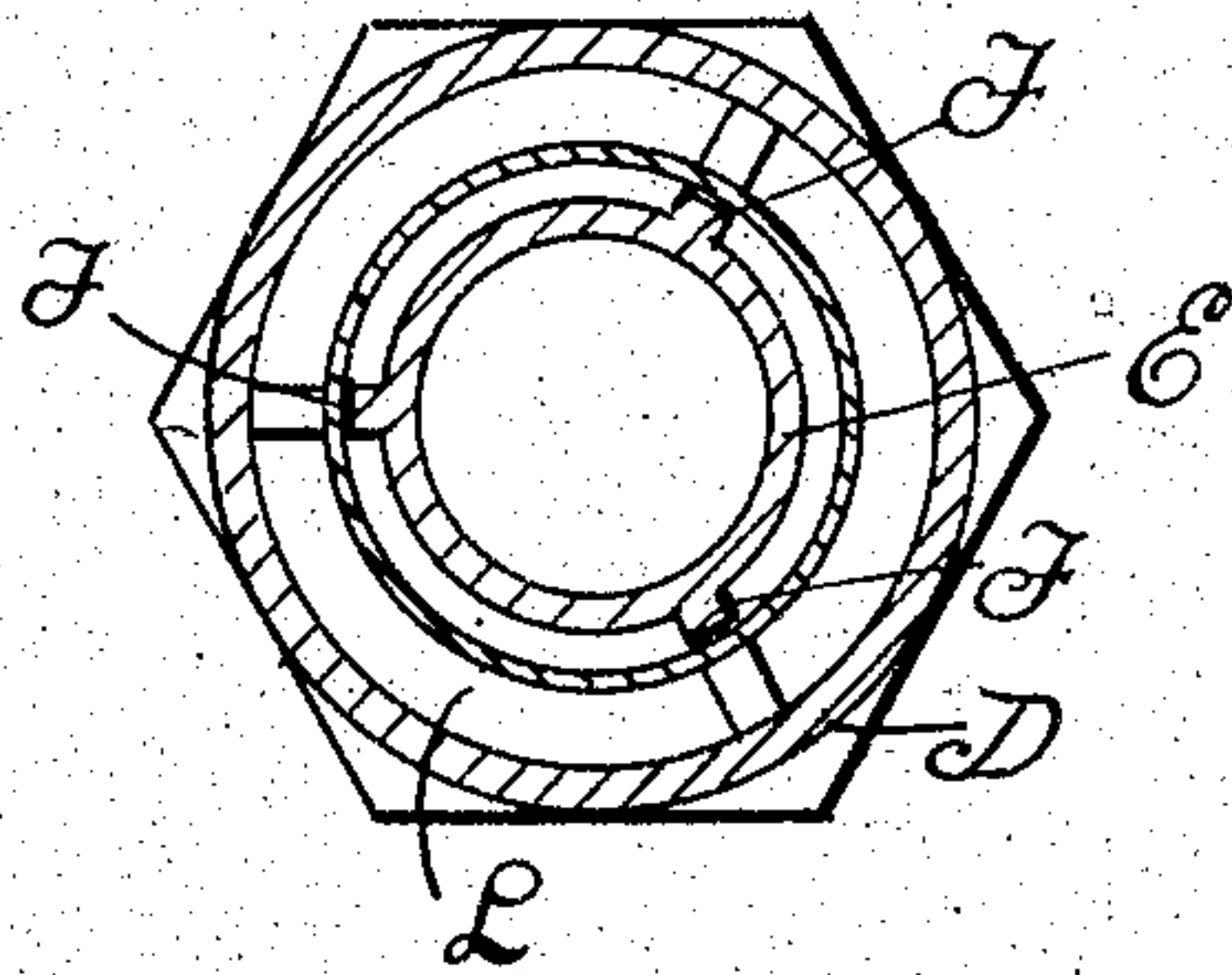


Fig. 3.

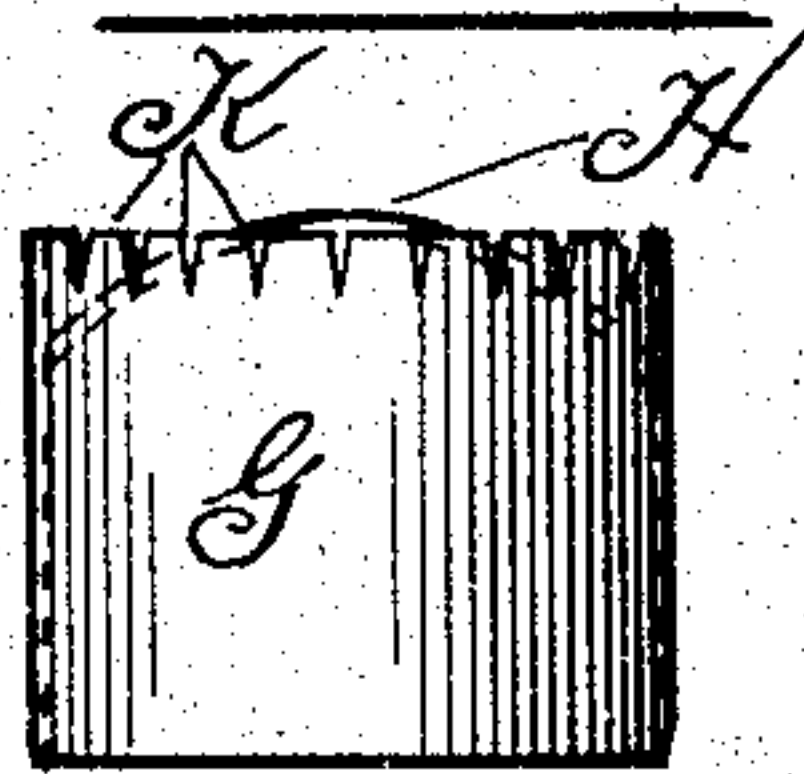
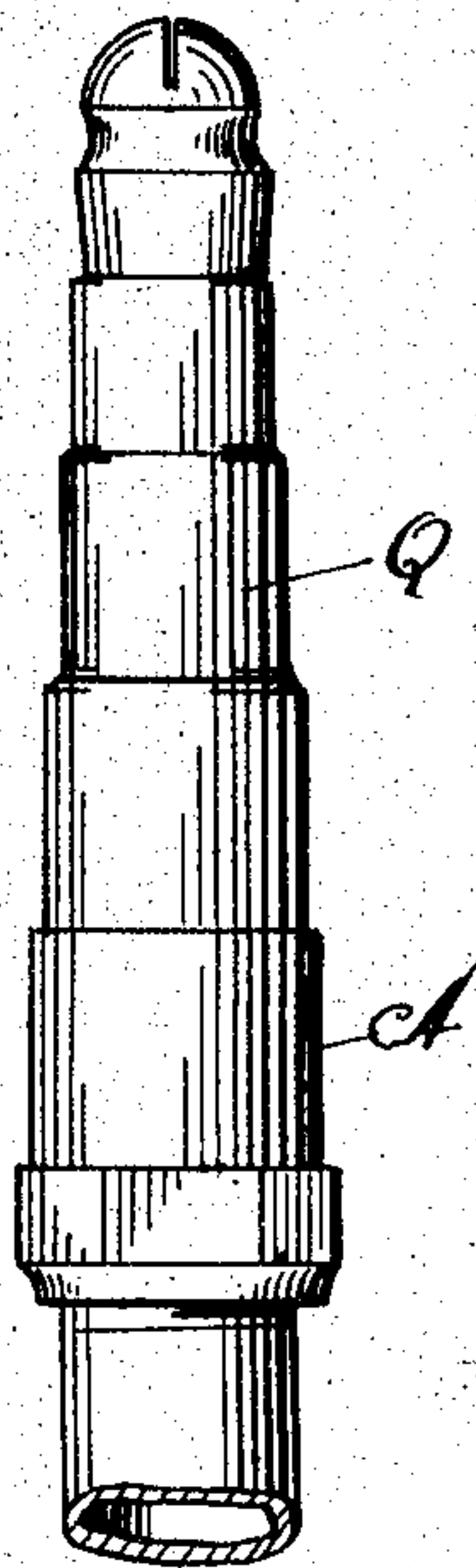


Fig. 4.



Witnesses

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By Peter Keller
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Rudolph M. Fox Atty.

UNITED STATES PATENT OFFICE.

PETER KELLER AND PHILIPP SEILER, OF CHICAGO, ILLINOIS, ASSIGNORS,
BY DIRECT AND MESNE ASSIGNMENTS, TO SAID KELLER AND JOHN M.
TIERNEY, OF CHICAGO, ILLINOIS.

PRESSURE-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 786,769, dated April 4, 1905.

Application filed December 27, 1904. Serial No. 238,382.

To all whom it may concern:

Be it known that we, PETER KELLER and PHILIPP SEILER, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Pressure-Regulators; and we do hereby 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.

Our invention relates to a novel construction in a pressure-regulator particularly adapted for use in connection with gas service-pipes and burners, the object being to provide a simple and efficient device of this character by means of which a saving in gas consumed may be effected; and it consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings, illustrating our invention, Figure 1 is a central vertical section of a pressure-regulator constructed in accordance with our invention, showing the valve therein raised to substantially the upper limit of its movement. Fig. 2 is a horizontal section on the line 2 2 of Fig. 1. Fig. 3 is a detail side elevation of a valve, showing the slots provided therein for the passage of the gas. Fig. 4 is a detail side elevation showing our pressure-regulator in smaller size disposed beneath a gas-burner.

Our said regulator comprises a cylindrical casing A, which is reduced at its upper end, as at B, said reduced portion being externally threaded and extending downwardly into said chamber A to form an annular flange or shoulder C therein, forming part of the pressure-regulating means, said shoulder C being of less outer diameter than the inner diameter of said casing A. Said casing A is internally threaded at its lower end to receive a member D, having a central vertically-disposed sleeve E of less diameter than said casing A, provided externally with three longitudinally-disposed vertical guide-ribs F, on which the cylindrical valve G is longitudinally moved. The said valve consists of the cylinder G, in

which a concavo-convex dished head H is mounted below the upper end thereof, so as to provide an annular flange J of larger diameter than said annular flange C, but fitting relatively closely over the latter, said flange J being provided with a plurality of longitudinal slots K, substantially triangular in form and larger at their upper than at their lower ends. Recesses L are provided in the horizontal wall M of said member D to provide passages for the gas, the latter being adapted to enter through a pipe N, passed through said sleeve E, and impinge against the head H of the valve G and pass thence downwardly in the spaces between the guide-ribs F through the recesses L, thence through the annular space O between the inner wall of the casing A and the cylindrical valve G, thence over the upper edge of said valve and through the slots K therein into the reduced upper end portion B of said casing A, and over the latter into the service-pipes P.

The weight of the valve G is so adjusted as to be a trifle in excess of the weight which could be raised by the normal gas-pressure, so that until such pressure exceeds a given point said valve G will retain its normal position and will serve only as a check to prevent excessive flow, and likewise to prevent a more steady flow of the gas than ordinarily. As soon as the pressure rises, however, the said valve G will be raised, the height depending, of course, upon the pressure, and if same is excessive said valve will be raised to the position shown in Fig. 1, thereby shutting off a large percentage of the supply, by reason of the fact that the flange C acts as a cut-off to partially close the said perforations K, and thus reduce the flow to a minimum, but not to a degree which would render it possible for any of the gas-jets fed from said service-pipe to be extinguished.

Our said check-valve may be employed directly in the connection between the meter and service-pipes of a building or may be made in sufficiently-small size to be mounted on the arms of gas-fixtures and to receive the pillars Q, the latter being adapted to be

threaded upon the reduced portions B of the casings A.

Our said regulator is very simple and efficient and by reason of checking the flow of gas effects considerable economy, besides serving to maintain a more uniform pressure, and consequently steady light.

We claim as our invention—

1. A pressure-regulator comprising in combination, a cylindrical member having a reduced sleeve at one end thereof provided with vertically-disposed guide-ribs and having a cylindrical opening for the passage of gas, a cylindrical casing adapted to be mounted on said member and having a reduced upper end portion provided with a central opening surrounded at its lower end by an annular flange, a cylindrical valve longitudinally movable on said guide-ribs and having a dished head interposed therein between its ends, and longitudinally-disposed slots interposed in the cylindrical wall of said valve above the said dished head and adapted to coact with the said annular flange to partially cut off the flow of gas when the latter exceeds the normal pressure.

2. A pressure-regulator comprising in combination, a cylindrical member having a re-

duced sleeve at one end thereof provided with vertically-disposed guide-ribs and having a cylindrical opening for the passage of gas, a cylindrical casing adapted to be mounted on said member and having a reduced upper end portion provided with a central opening surrounded at its lower end by an annular flange, a cylindrical valve of larger diameter than the diameter of said annular flange longitudinally movable on said guide-ribs and provided in its upper end with longitudinally-disposed slots adapted to coact with said annular flange to partially cut off the flow of gas when the pressure rises, said valve being provided between its ends with a head against which the gas is adapted to impinge, said first-named member being provided in its upper wall with recesses through which the gas passes below the lower edge of said cylindrical valve.

In testimony whereof we have signed our names in presence of two subscribing witnesses.

PETER KELLER.
PHILIPP SEILER.

Witnesses:

RUDOLPH WM. LOTZ,
F. SCHLOTFELD.