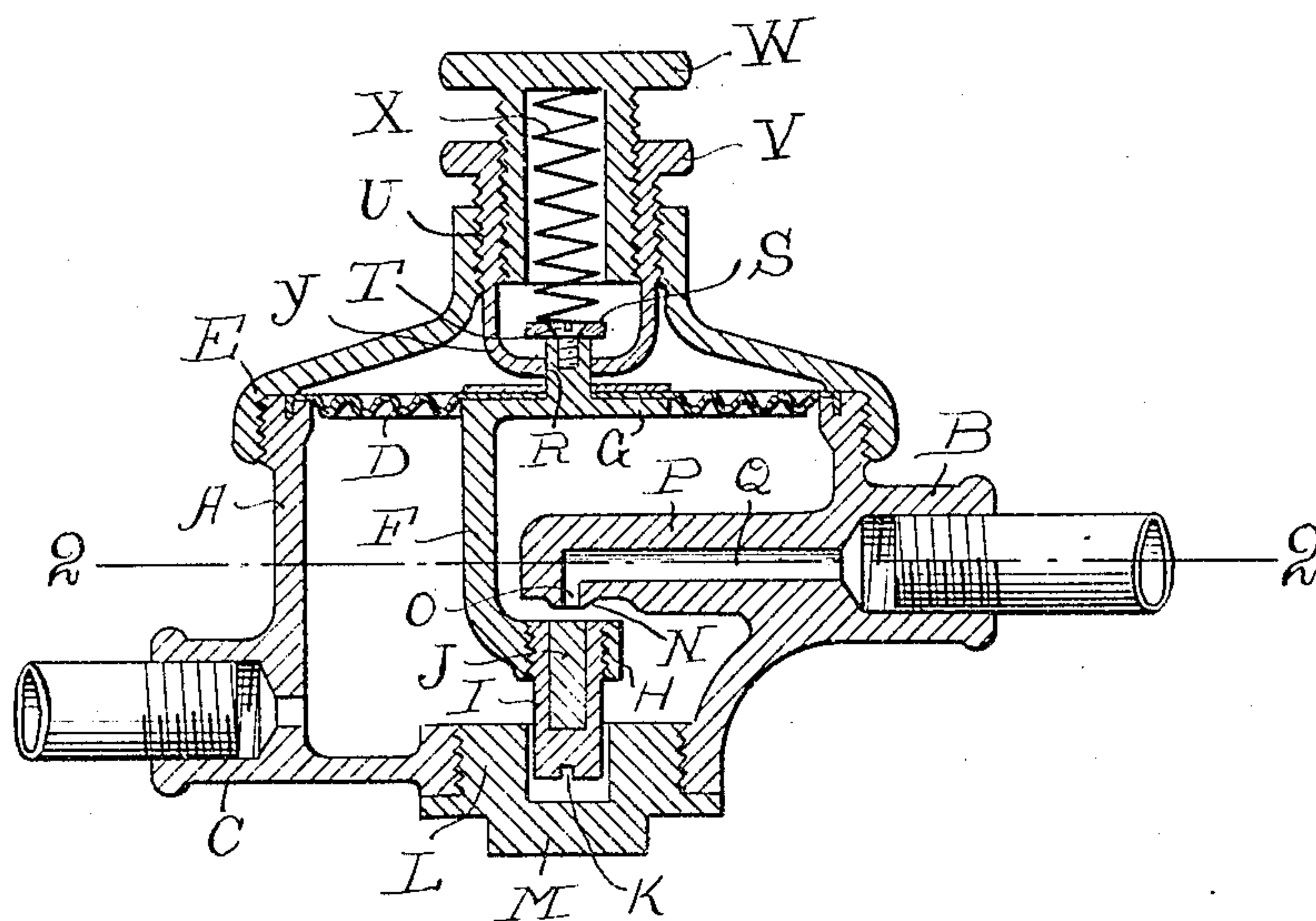


No. 784,331.

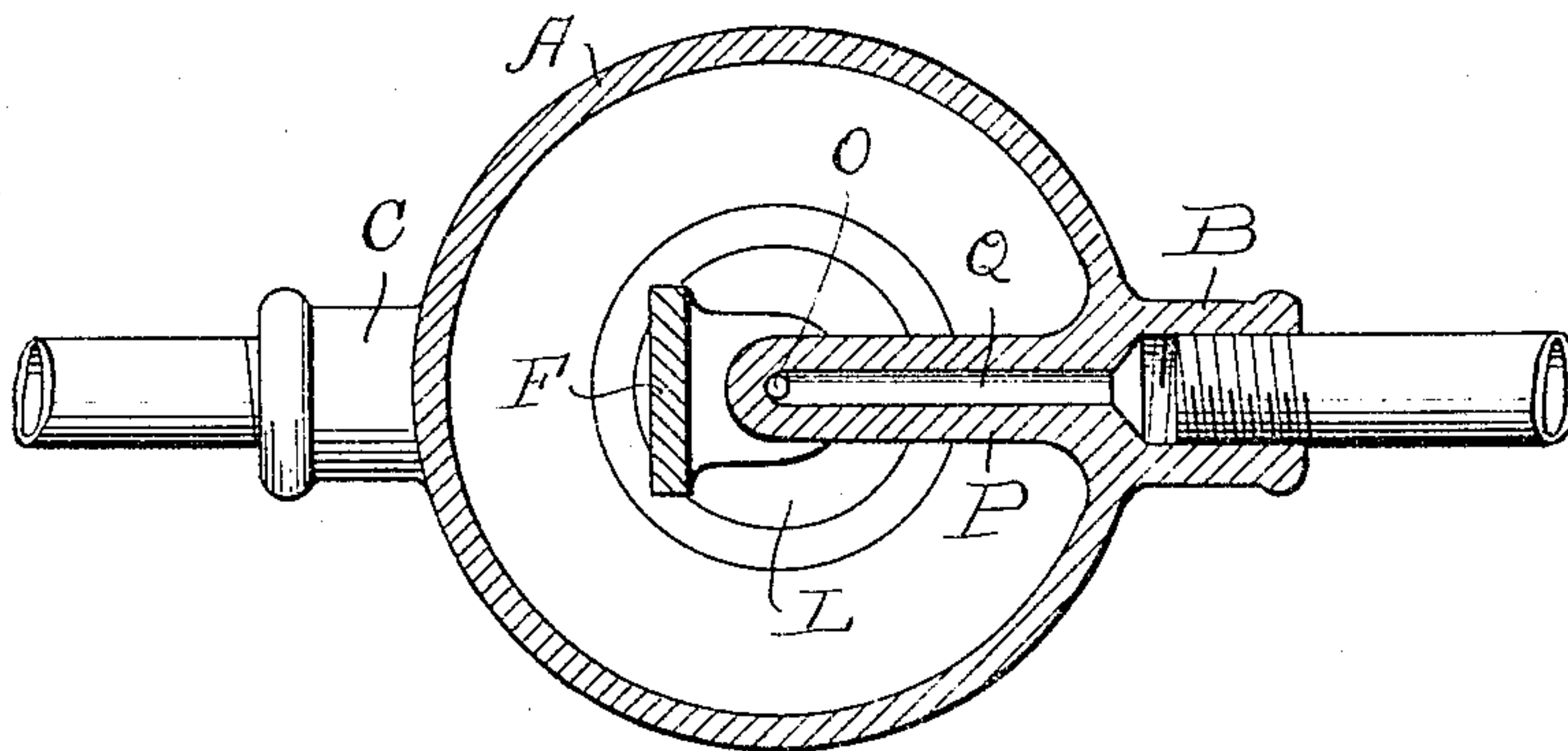
PATENTED MAR. 7, 1905.

P. KELLER.  
PRESSURE REGULATOR.  
APPLICATION FILED OCT. 31, 1904.

*Fig. 1.*



*Fig. 2.*



Witnesses:

*E. F. Wilson*

*G. Schlotfeld*

Inventor:

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# UNITED STATES PATENT OFFICE.

PETER KELLER, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO  
JOHN M. TIERNEY, OF CHICAGO, ILLINOIS.

## PRESSURE-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 784,331, dated March 7, 1905.

Application filed October 31, 1904. Serial No. 230,784.

*To all whom it may concern:*

Be it known that I, PETER KELLER, a citizen 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 I 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.

My invention relates to an improved form of pressure-regulator for gas, vapors, and the like, the object being to provide a regulator particularly adapted for use with carbonated beverages, which can readily be adjusted to automatically regulate between various limits of pressure; and it consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a central vertical section of a regulator made in accordance with my invention. Fig. 2 is a horizontal section on the line 2 2 of Fig. 1.

In said drawings, A represents a circular casing provided with an inlet-opening B in the middle of one side and an outlet-opening C adjacent the lower wall on the opposite side of said casing. The upper end of said casing is closed by means of a corrugated diaphragm D, which is securely held in place by means of the cap or cover E, which is screwed onto the upper end of said casing A. Said diaphragm carries a dependent L-shaped member F, which is provided with a base G, adapting it to be securely soldered or otherwise fastened to said diaphragm D. The lower end of said member F passes downward adjacent the middle portion of said casing A, and below the central portion of same is turned inwardly and provided with a threaded central opening H, in which a plug I is adapted to be adjustably held. The central portion of said plug I is cut away at one end and is adapted to be filled with a soft-rubber plug or valve-seat J. Said plug I is provided in its lower end with a screw-driver slot K, by means of which it may be adjusted. The lower wall of said casing is

provided with a central screw-threaded opening L, which is adapted to be closed by means of the screw-threaded plug M. By removing said plug M said plug I may be readily adjusted. The upper end of said rubber valve-seat J is adapted to bear on the edge N surrounding the central opening O, which is provided in the projection P, said opening O being connected to said inlet B through said projection P by means of the passage Q. Said member F is provided with a central upward projection R, adapted to pass through said diaphragm D, said projection R being provided with a circular plate or washer S of larger diameter than said projection R, secured on its upper end by means of the screw T. Said cap E is provided with a central screw-threaded opening U, in which the bushing V is adapted to be adjustably held. Said bushing V is internally screw-threaded, and the hollow plug W is adapted to be adjustably held therein. A compression-spring X is mounted within said hollow plug W and is adapted to bear on said plate S, and thus normally hold said diaphragm and said member F at the lower limit of their movement. The lower end of said bushing V is closed by a wall which is provided with a central opening Y, which is larger than said projection R and smaller than said plate S and is adapted to raise said member F and diaphragm D when said bushing V is screwed out, thus adapting said member and plug J to close said opening O when so desired. The tension of said spring X is adapted to be adjusted by means of the screw-plug W, against which the upper end of said spring bears.

In operating my regulator should it be desirable to change the pressure to which the pressure of the fluid passing through same is reduced it can readily and quickly be accomplished by adjusting the tension of said spring X, and should it be desirable to shut off the flow entirely it can readily be done by raising said member F by means of said bushing V.

Should said rubber plug J wear away so that the reducer would not properly operate,



the end of said plug may be brought to its proper position by adjusting said screw-plug I through the opening L.

5 My regulator is efficient in action, simple in construction, and easily and quickly adjusted to produce all the results desirable to attain from a device of this character.

I claim as my invention—

10 A pressure-regulator comprising a casing provided with an inlet and an outlet opening, a valve adapted to close said inlet-opening, a diaphragm adapted to be operated by the pressure within said casing, a connection between said diaphragm and said valve whereby  
15 said valve will be closed or partially closed as said diaphragm is forced outward, means for adjusting the resistance of said diaphragm against said pressure, comprising a compres-

sion-spring, mounted in an adjustable holder, adapted to bear on the outer side of said diaphragm, and means for holding said valve closed, comprising a central projection on the outer side of said diaphragm, said projection being provided with an enlarged head, an adjustable member adapted to surround said projection and engage said head whereby when  
25 said adjustable member is moved outward said diaphragm will be drawn outward and said valve will be closed.

In testimony whereof I have signed my name in presence of two subscribing witnesses. 30

PETER KELLER.

Witnesses:

RUDOLPH WM. LOTZ,  
F. SCHLOTFELD.