

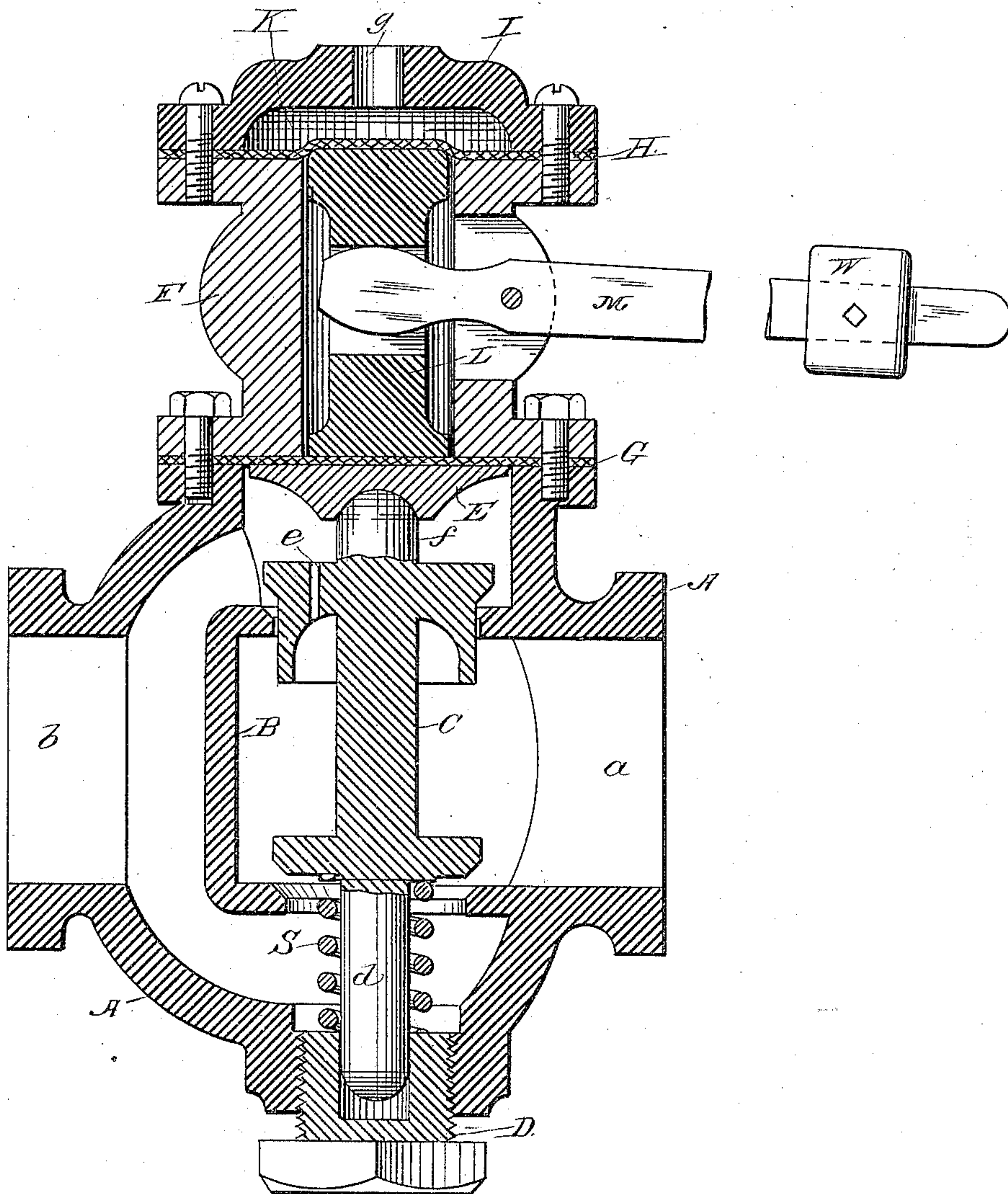
(No Model.)

L. SHOOK.

GAS PRESSURE REGULATING VALVE.

No. 341,776.

Patented May 11, 1886.



Witnesses:  
Harry S. Rohrer.  
John Imirie

Inventor:  
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per O. E. Jeffy  
Atty.



# UNITED STATES PATENT OFFICE.

LEVI SHOOK, OF PITTSBURG, PENNSYLVANIA.

## GAS-PRESSURE-REGULATING VALVE.

SPECIFICATION forming part of Letters Patent No. 341,776, dated May 11, 1886.

Application filed March 13, 1886. Serial No. 195,138. (No model.)

*To all whom it may concern:*

Be it known that I, LEVI SHOOK, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and  
5 useful Improvements in Gas-Pressure-Regulating Valves; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to  
10 make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form part of this specification.

The figure of the drawing is a vertical section of my regulating-valve.

My invention relates to that class of regulating-valves that controls the gas to the furnace for generating steam and is acted upon by the varying pressure in the generator.

20 A is the valve-case, provided with the inlet *a*, the outlet *b* leading to the furnace, and the diaphragm or partition B. The partition is rectangular in form, with openings in the top and bottom, forming seats for the double or balanced valve C. The valve may be single, if  
25 desired. The valve consists of two disks, rigidly or otherwise connected together by a stem, a portion, *d*, of the same projecting below the lower valve into a recessed adjustable plug, D,  
30 which is screwed into the bottom of the case. This plug forms a guide for the valve, to insure it seating properly. It also can be so adjusted that it will come in contact with the stem, thus preventing the valve from seating  
35 altogether, so that a sufficient quantity of gas will flow through to keep the burners in the furnace ignited when the predetermined pressure of steam has been generated. Another means for accomplishing the same ends, which  
40 is old, is to make a small hole, *e*, through the valve, as shown in the upper valve.

Between the plug D and the valve is placed a spring, S, the tension of which can be adjusted by the plug D.

45 Projecting from the upper part of the valve is a short stem, *f*, the end of which fits in a socket in the plate E. This plate fits in the neck of the case with sufficient play for vertical movement of the valve. To the upper part  
50 of the case is secured a casing, F, whose bore

is less than that of the upper neck of the case, and which also secures between it and the case a diaphragm, G.

To the upper part of the casing F is secured a diaphragm, H, by the recessed cap I. The  
55 recess K in this cap forms a steam-chamber, which is connected to the boiler by a pipe (not shown) with the opening *g*.

In the bore of the casing F and in contact with both of the diaphragms is placed what  
60 may be called the "upper valve-stem," L, which is slotted to receive the end of the weighted lever M, the fulcrum of the lever being supported by the casing.

The stem of the valve being disconnected  
65 permits the diaphragms to remain intact, thus preventing any escape of gas or steam that would occur if the steam passed through the same or through stuffing-boxes. Besides there is a free action for the valve. The valve-stem  
70 being disconnected is held up by the spring, and is prevented from rising too high by means of the plate E.

The weight W may be so adjusted that any predetermined pressure can be maintained.

75 From the foregoing description it will be seen that the valve is reliable, that it will not leak steam or gas, and that it is easily adjusted to varying the pressure of steam.

I am aware of a pressure-regulator employing two diaphragms to form a water-chamber,  
80 and also of one in which two diaphragms are used independently. This I do not claim, broadly; but

What I do claim is—

85 1. In a regulating-valve, the combination of the valve with the two diaphragms, the disconnected stem between the diaphragms, and the adjustable weighted lever engaging the disconnected stem, substantially as shown and  
90 described.

2. In a regulating-valve, the combination of the valve with the two diaphragms, the disconnected stem, the plate between the valve and diaphragm, and the spring for keeping  
95 the valve-stem in contact with the plate, substantially as shown and described.

3. In a regulating-valve, the combination of the valve with the two diaphragms, the disconnected stem between the diaphragms, the  
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plate between the lower diaphragm and valve, the spring, and the adjustable plug, substantially as shown and described.

4. In a regulating-valve, the combination of  
5 the valve with the two diaphragms, the disconnected stem between the diaphragms, the weighted lever engaging the disconnected stem, the plate between the lower diaphragm and valve, the spring, and the adjustable plug,  
10 substantially as shown and described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

LEVI SHOOK.

Witnesses:

O. E. DUFFY,  
C. M. WERLE.