

P. KELLER.
GAS PRESSURE REGULATOR.
APPLICATION FILED JUNE 10, 1912.

1,063,932.

Patented June 3, 1913.

Fig. 1.

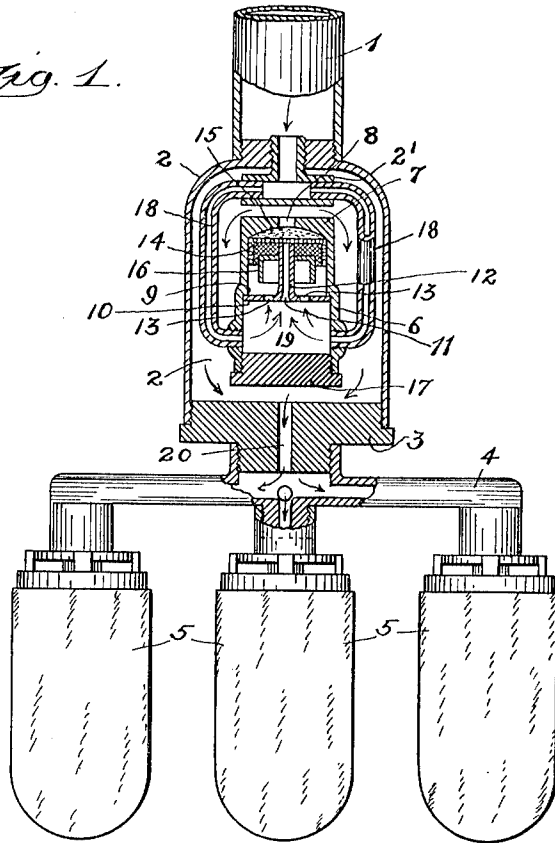
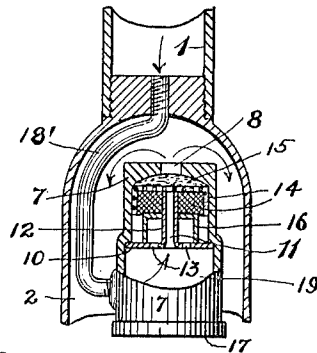


Fig. 2.



Witnesses:
Paul A. Vieren.
A. S. Phillips

By

Inventor:
Peter Keller
Charles Chaubert
Att'y.

UNITED STATES PATENT OFFICE.

PETER KELLER, OF CHICAGO, ILLINOIS.

GAS-PRESSURE REGULATOR.

1,063,932.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed June 10, 1912. Serial No. 702,716.

To all whom it may concern:

Be it known that I, PETER KELLER, a citizen of the United States, residing at the city of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Gas-Pressure Regulators, of which the following is a specification.

My invention relates to devices for regulating the flow and pressure of illuminating gas between the service pipes and the point at which it is consumed. It is well known that the pressure in such pipes varies from time to time, depending on the initial pressure at the gas holder and the drafts on the volume of gas in the pipes at the points of consumption. This causes the nature of a flame to vary greatly while the most effective and economical service is had by obtaining a steady, uniform pressure at the burners.

It is the object of my invention to produce this result, thereby providing a clear, white flame, which will be steady and brilliant and free from noise or whistling caused by gas passing through apertures under pressure.

While I show my invention as applied to multiple lamps in which a plurality of incandescent mantles are grouped in one illuminating device, my invention is also equally applicable to any style or size of burner or burners or to any kind of mechanical contrivance using gas either for heat or light.

The principles of my invention are illustrated in the drawings, in which—

Figure 1 shows a vertical section of my improved device with illuminating mantles attached; Fig. 2 represents an alternative form of the same.

Further describing my invention with reference to the drawings, in which like characters of reference denote like parts throughout: 1 represents a service pipe or service pipe connection, to which is attached an outer casing 2 having the walls 2' and the base 3. As illustrated in the drawings a head 4 having dependent mantles may be attached directly to said base. Within the said casing is a valve chamber having the walls 6 terminating in a closed end 7, having a central opening 8. The said walls are off-set to form an annular seat 9 which acts as a stop and location point for the transverse partition 10. The latter has a centrally disposed opening 11 extended up-

wardly by means of the tube 12. The partition and said tube preferably should be integrally formed, and the said partition is further provided with a plurality of small openings 13. A screen or foraminous plate 14 is introduced into the upper part of the valve chamber, and into the space between it and the head of said chamber is placed a layer of fine steel shavings 15. An inverted cup-shaped valve 16, having a central perforation adapted to receive the tube 12, moves readily up and down between partition 10 and the plate 14. The lower edges of said valve are adapted to set over and inclose the openings 13 in the partition 10. The upper portion of said valve is flat and adapted when in contact with plate 14 to close or partially close the openings therein. The valve chamber is closed by a member 17 and a pipe or pipes 18 connected externally to the service pipe lead thereinto and empty into the gas chamber 19. I prefer to use a plurality of connecting pipes or ducts 18, thereby giving a full and free connection with the source of gas supply. In many cases, however, the construction shown in Fig. 2 may be used, in which one pipe 18' is substituted for the others, such construction is cheaper and in many cases is considered sufficient.

It will be seen that the flow of gas under varying pressures is introduced into the gas chamber 19. A certain portion of it passes through the duct 11 and an additional portion passes through the openings 13, thereby lifting the valve 16, and permitting the required flow of gas. As the pressure increases, however, the valve is raised so that the top comes in contact with the plate 14, thereby shutting off a portion of the gas plate and permitting the valve to drop toward or on the partition 10. It will in effect float on the gas current, closing the openings above and below to control the amount of gas which passes through the opening 8 into the casing and thence through the opening 20 to the point of consumption.

The layer of fine steel shavings interposed between the valve outlet and the burner eliminates the buzzing, singing or whistling sound, and at the same time making the gas flow evenly through the burner, effectually preventing the flickering or wavering light usual to ordinary burners without automatic

regulators. And when the heat generated in the burner warms the steel shavings, they in turn heat the gas flowing through the regulator, thereby expanding it and causing it to make a whiter and more brilliant light.

I claim:

1. In a gas pressure regulator; a casing, a valve chest inclosed in the casing and adapted to discharge thereinto, a transverse partition in the valve chest forming a gas chamber at the end remote from the discharge having a plurality of perforations and a central duct, a foraminous plate or screen spaced from said partition, a valve slidable on said duct and adapted alternatively to engage with said partition and said plate, and means for conducting a flow of gas from a service pipe into said gas chamber.

2. In a gas pressure regulator; a casing, a valve chest inclosed in the casing and adapted to discharge thereinto, a transverse partition in the valve chest forming a gas chamber at the end remote from the discharge having a plurality of perforations and a central duct, a foraminous plate or screen spaced from said partition, a cup-shaped valve slidable on said duct and adapted alternatively to engage with said partition and said plate, and means for con-

ducting a flow of gas from a service pipe into said gas chamber.

3. In a gas pressure regulator; a casing, a valve chest inclosed in the casing and adapted to discharge thereinto, a transverse partition in the valve chest forming a gas chamber at the end remote from the discharge having a plurality of perforations and a central duct, a packing of steel shavings between said plate or screen and the discharge end, a valve slidable on said duct and adapted alternatively to engage with said partition and said plate, and means for conducting a flow of gas from a service pipe into said gas chamber.

4. In a gas pressure regulator; a valve chest, a transverse perforated partition provided with a central duct and placed in the valve chest to form a gas chamber at the inlet end, a foraminous plate or screen spaced from said partition, and a valve slidable on said duct and adapted alternatively to engage with said partition and said plate.

In witness whereof, I have hereunto set my hand this fifth day of June A. D. 1912, in the presence of two subscribing witnesses.

PETER KELLER.

Witnesses:

C. K. CHAMBERLAIN,
A. S. PHILLIPS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."