

P. KELLER.
GAS BURNER REGULATOR.
APPLICATION FILED FEB. 24, 1909. RENEWED MAY 25, 1911.

997,679.

Patented July 11, 1911.

Fig. 1.

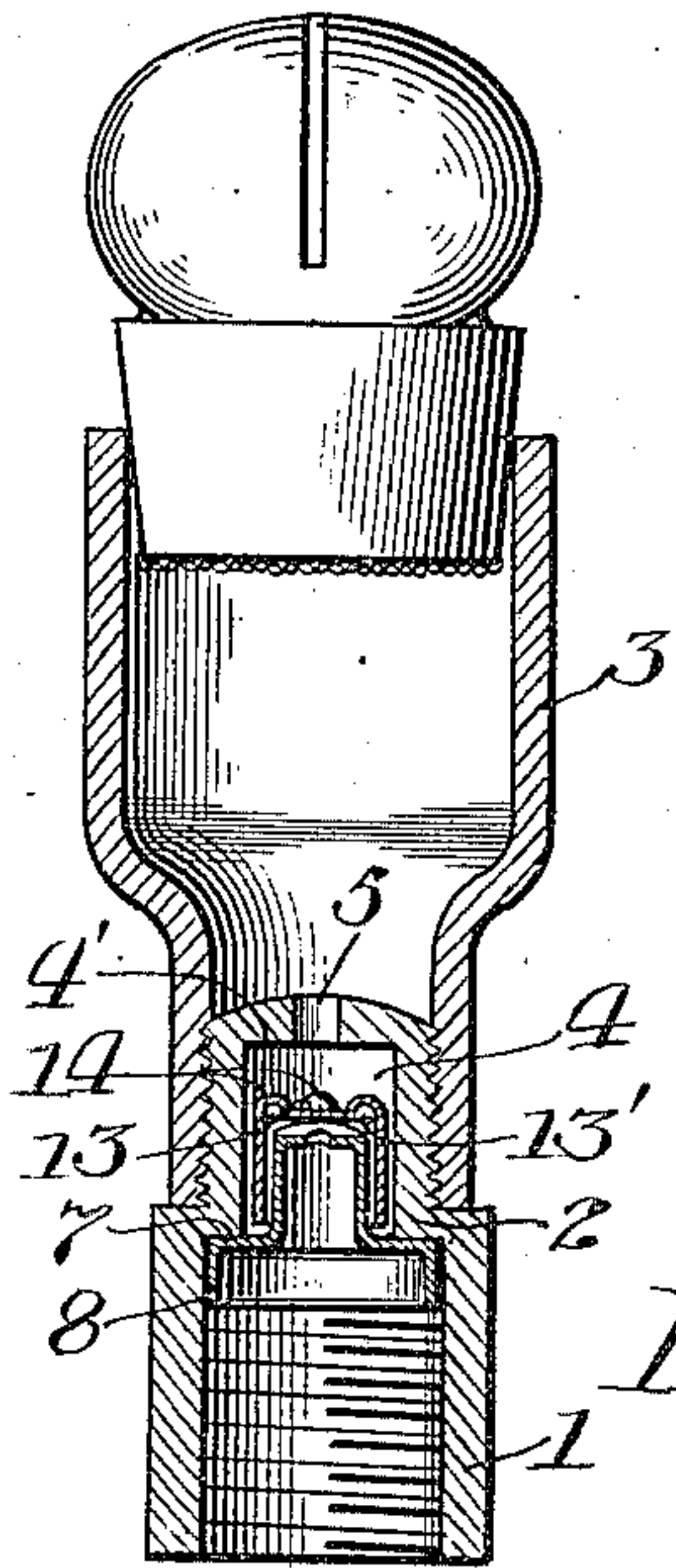


Fig. 2.

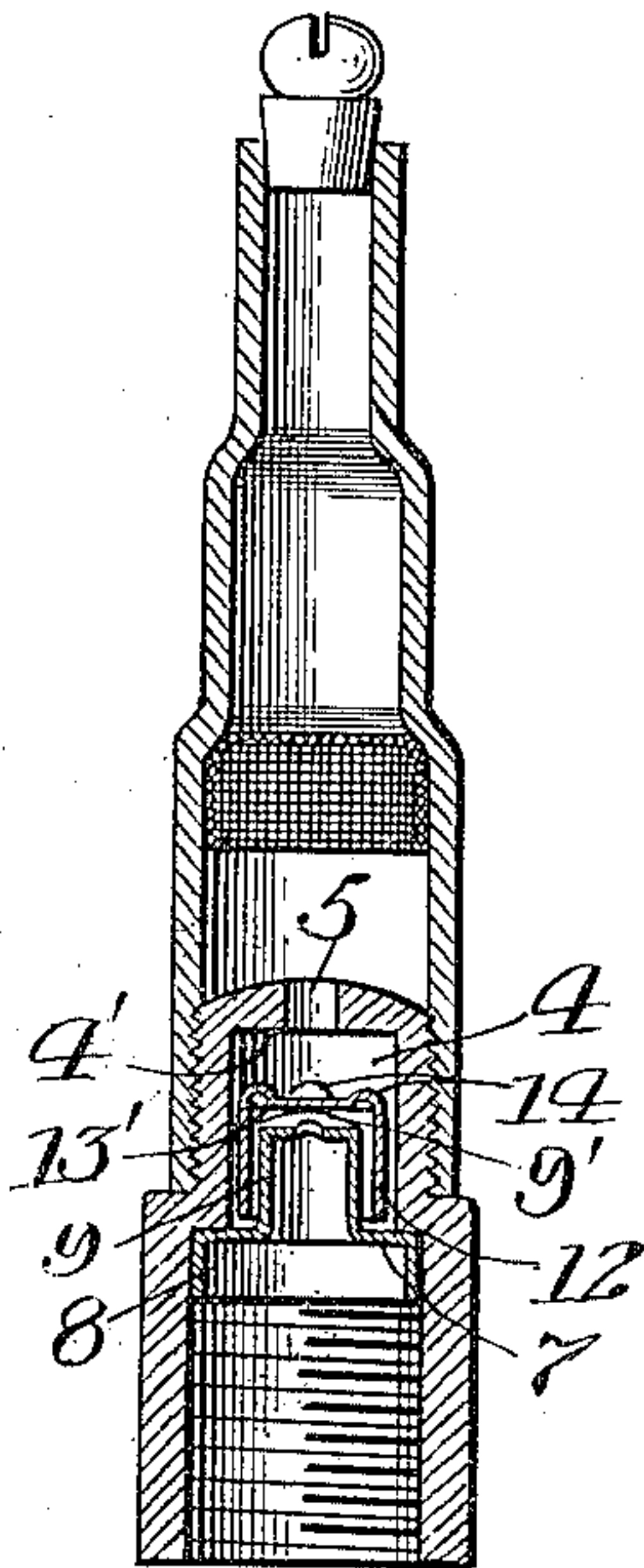


Fig. 3.

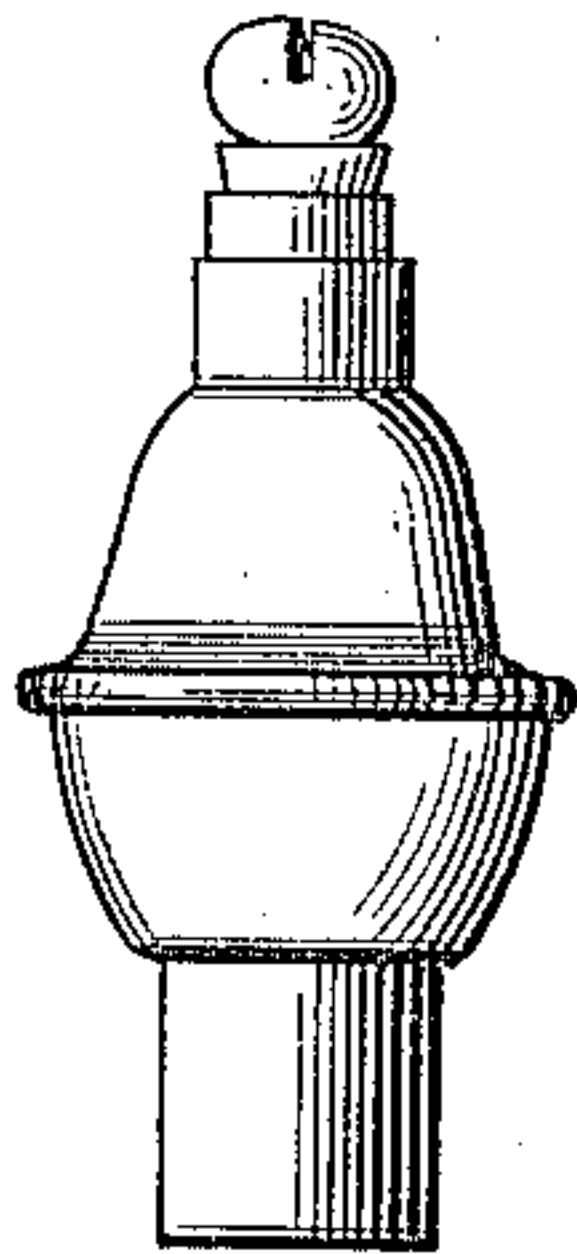


Fig. 4.

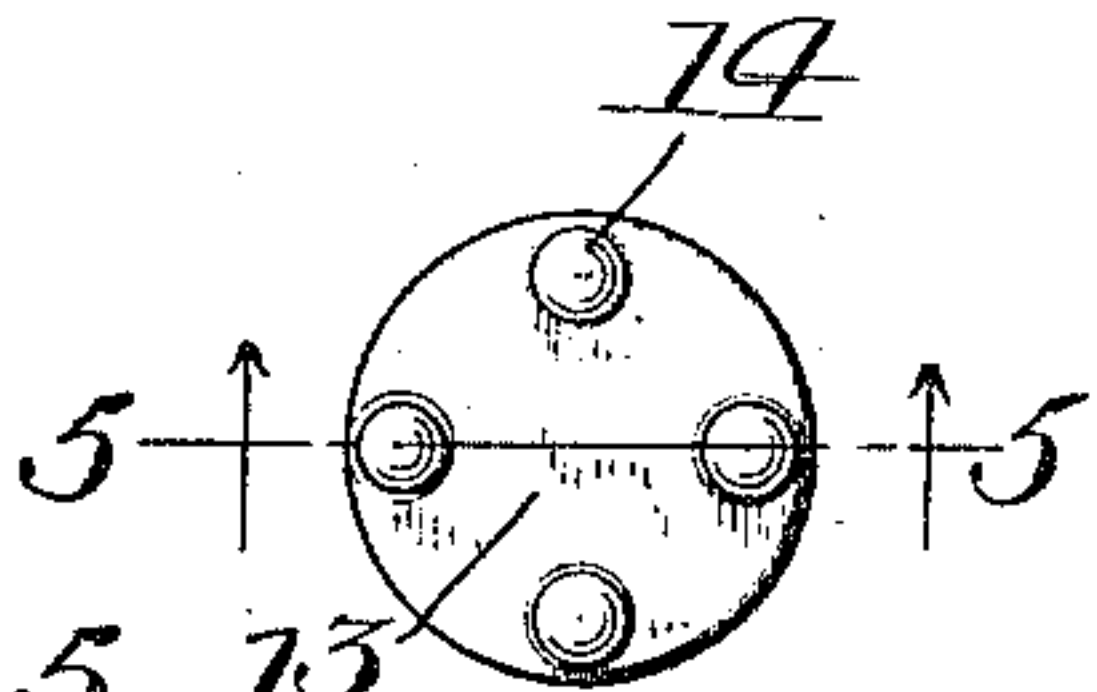


Fig. 5, 13.

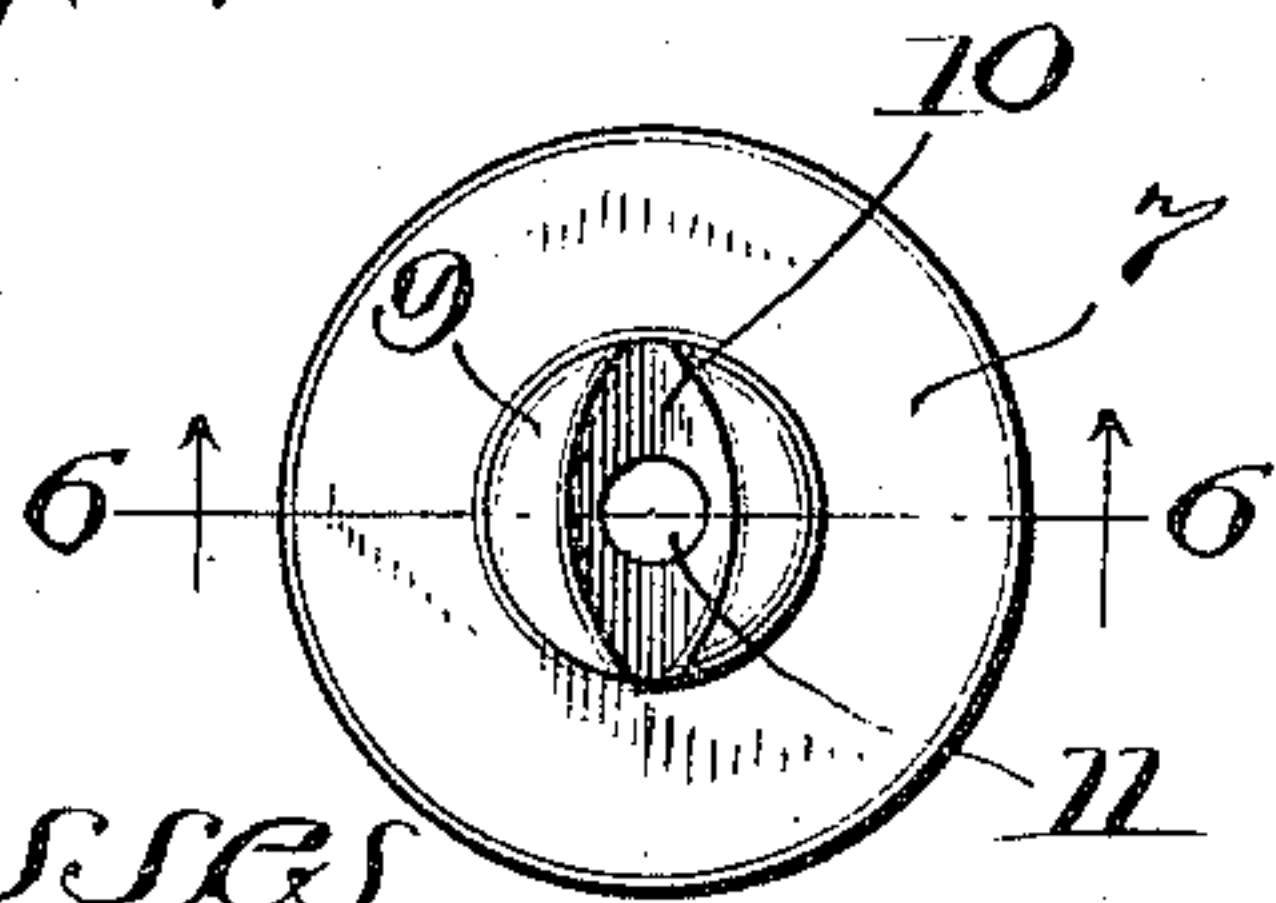


Fig. 6.

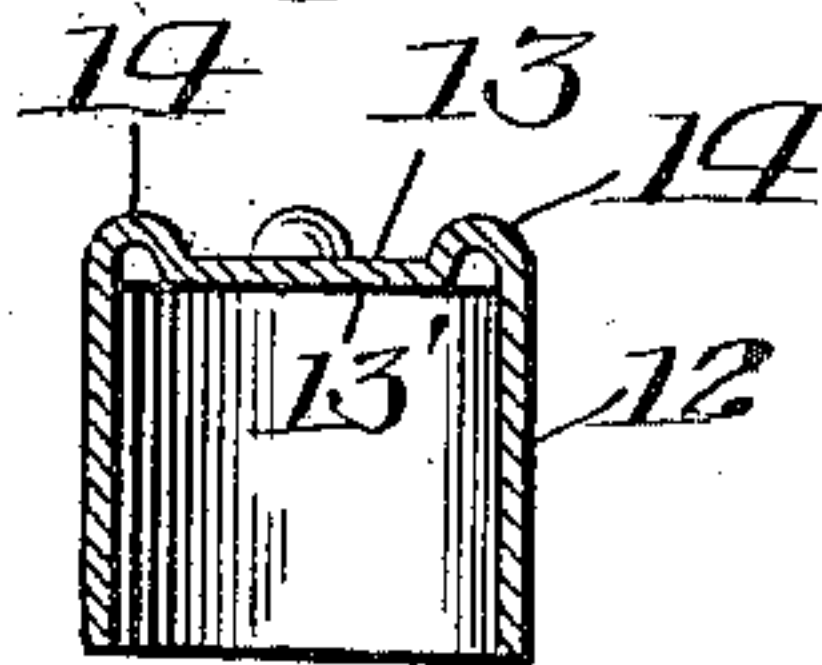
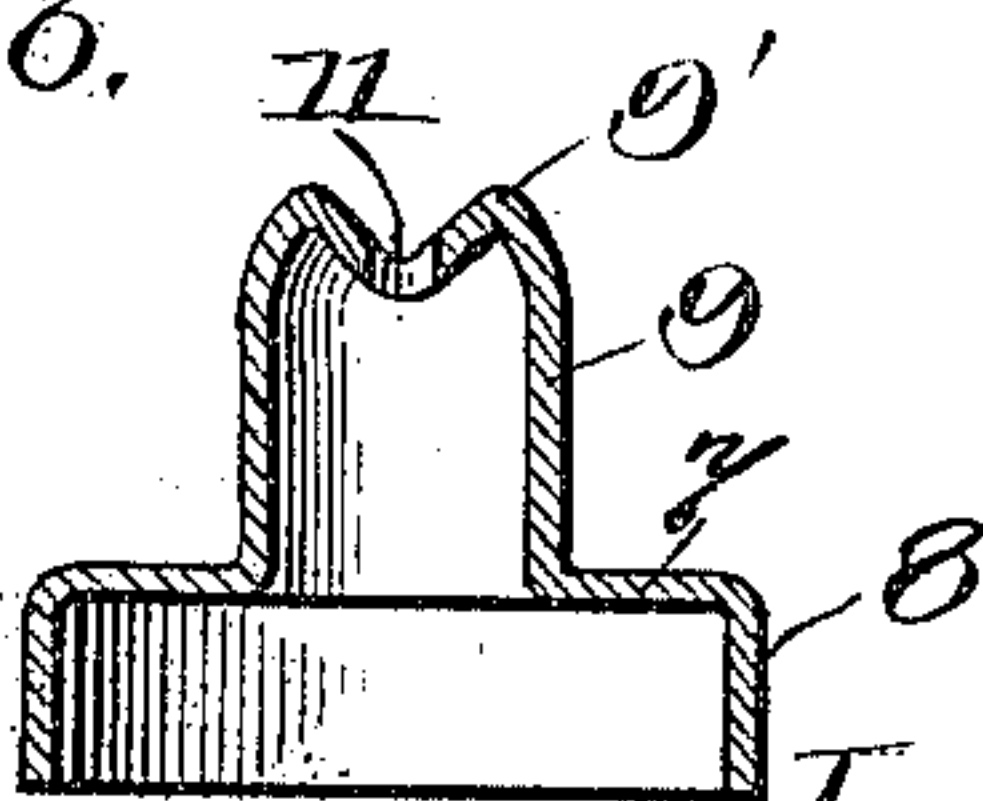


Fig. 7.



Witnesses
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UNITED STATES PATENT OFFICE.

PETER KELLER, OF CHICAGO, ILLINOIS.

GAS-BURNER REGULATOR.

997,679.

Specification of Letters Patent.

Patented July 11, 1911.

Application filed February 24, 1909, Serial No. 479,811. Renewed May 25, 1911. Serial No. 629,487.

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-Burner Regulators, of which the following is a specification.

My invention relates to regulators by which the flow of gas is controlled at the burner and is an improvement upon the device shown in Patent #847,412, issued to me on the 19th day of March, 1907.

It is especially designed to meet the conditions which I find in the large tip burners, commonly known by the name of "Jumbo". The invention consists in the shape and configuration of the parts whereby more regular and uniform channels for the flow of gas are provided which vary in capacity with the movements of the parts, and by which a more regular, uniform, and uninterrupted delivery of gas to the tip is effected.

Figure 1 shows a gas burner provided with the said invention. Fig. 2 represents the said invention with a different type of burner attached. Fig. 3 shows the top view of the regulating valve. Fig. 4 shows a vertical section of the same on line 5—5 of Fig. 3. Fig. 5 shows a top view of the valve retaining device. Fig. 6 shows a vertical section of the same on the line 6—6 of Fig. 5. Fig. 7 represents another form of standard burner which may be applied to the base member.

Further describing my invention with reference to the drawings in which like characters of reference denote like parts throughout: 1 represents an internally threaded base adapted to be secured to a gas fixture. It has the inside shoulders 2 and is provided with an externally threaded extension of smaller diameter upon which is secured the pillar 3. Within said extension is a valve chamber 4 from which the opening 5 leads to the interior of the pillar. The valve retaining device shown in Figs. 5 and 6 consists of the annular member 7, the depending flange 8 and the nipple 9. The latter has a transverse depression or downward fold 10 and the aperture 11. The valve is shown in Figs. 3 and 4. It should be cup shape having the exterior walls 12 which are substantially parallel. The transverse diameter of said cup is somewhat larger than that of said nipple and the walls slightly

shorter. The closed end 13 is provided with projections 14 which are preferably adjacent to the periphery thereof. The depending flanges 8 of the valve securing device should be made slightly flaring. When it is desired to assemble the parts in their proper relation, the valve is placed over the nipple and the whole placed within the base 1, when, by suitable tool, they are forced into the base until the flat annular portion 7 strikes against the shoulder 2. It will there be held securely in place by the flanges 8 which are compressed so as to rest against the inside walls of the base. The movement of the valve will then be limited at its lower point by the parts 9' of the nipple 9 on which rests the underside 13' of the closed end; at the upper part of its movement it will be limited by the impact of the projections 14 upon the underface 4' of the valve chamber 4. It will be seen that at neither limit of its throw does the valve become "dead"; but at all times when in use there is a flow of fluid through the provided channels even when the parts of the structure named are in actual contact. A much more sensitive and regular action of the valve is thus produced than when a complete cut off may take place at one or both ends of the stroke. When the pressure of gas in the service pipes is so low that the valve will not be raised, a flow of gas is nevertheless provided for; and, when the valve is raised to actual contact by extremely high gas pressure, the flow will not entirely be cut off but a sufficient current will be supplied to the burner.

My device is especially adapted to burners of the type shown in Fig. 1 in which a comparatively large flow of gas is required at all times. It is also applicable to incandescent burners in which it is especially desirable that a uniform pressure and delivery of gas should be obtained. It may, however, be used with advantage in connection with ordinary gas pillars such as are shown in Fig. 2 or to those having an enlarged central chamber of the well known type shown in Fig. 7.

I claim:

1. In a gas burner regulator, the combination of a base member, an extension therefrom adapted to support a pillar and provided with a valve chamber and an external opening, a valve retaining device seated in the base member provided with a nipple

having an axially disposed aperture and a transverse depression within the valve chamber, and a cup shaped valve having peripheral projections on its closed end inverted over said nipple and adapted for movement within said valve chamber.

2. In a gas burner regulator, the combination of a base member provided with a valve chamber having an outlet opening, a valve retaining device provided with an apertured nipple and having a transverse depression secured in the valve chamber, a cup shaped valve having walls shorter than the nipple inverted thereover, and projections on the external face of the closed end of said valve.

3. In a gas burner regulator, the combination of the base member, a valve chamber extension leading therefrom, having an an-

nular shoulder and an axial opening, a valve retaining device comprising an annular member secured adjacent to said shoulder and a nipple central thereof, said nipple having an axial orifice and a transverse depression, and a cup shaped valve within said chamber having walls shorter than the nipple inverted thereover, and peripheral projections on the external face of the closed end of said valve.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses, this 20th day of February 1909.

PETER KELLER.

Witnesses:

EDWIN H. ABBOTT,
C. K. CHAMBERLAIN.

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