

W. M. SHEPHERD.
VAPOR BURNER.
APPLICATION FILED JUNE 2, 1910.

1,036,353.

Patented Aug. 20, 1912.

Fig. 1.

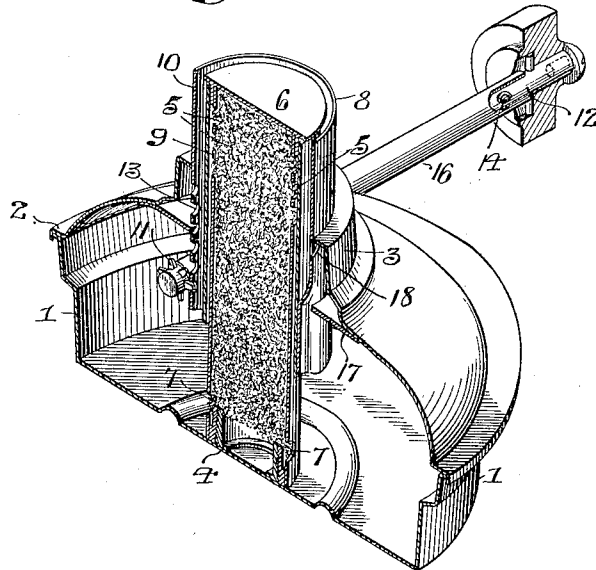


Fig. 2.

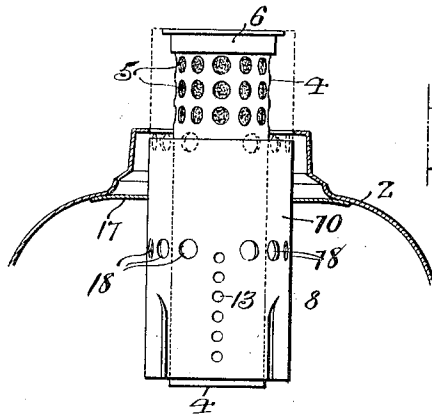


Fig. 3.

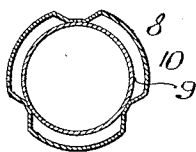


Fig. 4.

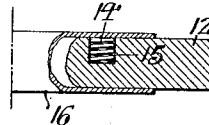
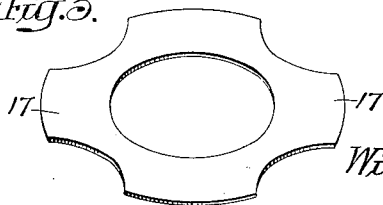


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM M. SHEPHERD, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO GILBERT T. SUTTERLY AND GEORGE H. SUTTERLY, OF PHILADELPHIA, PENNSYLVANIA.

VAPOR-BURNER.

1,036,353.

Specification of Letters Patent.

Patented Aug. 20, 1912.

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To all whom it may concern:

Be it known that I, WILLIAM M. SHEPHERD, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Vapor-Burners, of which the following is a specification.

My invention relates to improvements in vapor lamps or burners of the general type shown in the patent of G. T. Sutterly, No. 820,151, dated May 8, 1906, and its object is to provide a convenient, efficient and safe construction of such a lamp or burner.

In the accompanying drawings, Figure 1 is a sectional perspective view of an alcohol lamp constituting one embodiment of my invention; Fig. 2, is a side elevation of the burner tube and regulating sleeve, the font cover being partially shown in section; Fig. 3, is a detached plan view of the regulating sleeve; Fig. 4, is a detached broken view, partly in section, of a portion of the operating shaft; and Fig. 5, is a perspective view of the collar which serves as a guide for the regulator.

1 represents the font of the alcohol lamp, having the cover 2 secured thereon in suitable manner. Mounted upon, and preferably secured to the bottom of the font is the burner tube 4, which projects above the neck portion 3 of the font cover, said projecting portion being provided with the usual burner openings 5, a cap 6, and openings 7 at or near the bottom of the tube for admission of alcohol to the wick of asbestos or similar material within the tube. Surrounding the burner tube is the regulating shutter 8 comprising two tubular sleeves 9 and 10, one fixed within the other, the inner sleeve 9 closely fitting the burner tube and the outer sleeve 10 being of a sufficiently larger diameter to leave an annular space between the two as shown. If desired a collar 17 may be secured within the font cover to serve as a guide for the regulator. Any suitable means for securing the regulator tubes one within the other, and properly spacing them apart, may be employed. In the present instance, as shown in Fig. 3, the outer tube 10, at its lower portion has been crimped upon the inner tube. The regulator is adapted to be raised and lowered by means of the pinion 11 fixed to the end of the operating shaft 12, said pinion 11 en-

gaging with the series of openings 13 in the outer tube 10. The shaft 12 turns in the sleeve or bushing 16 passing through the wall of the font and held in position in any suitable manner. The coiled spring 14, set in the socket 15 in the shaft bears against the sleeve 16 (see Fig. 4), forming a friction device for holding the shaft 12 against rotation when the latter is not desired. When the shutter is in its lowermost position, as shown in full lines, in Fig. 2, all of the burner openings 5 are exposed; when the shutter is in its uppermost position, as shown in Fig. 1, the inner sleeve 9 engages with the flange of the cap 6, completely closing the burner tube openings and cutting off the flame, but the flange of the cap is not of sufficient diameter to cover the space between the sleeves.

While the lamp is burning the font is filled with heated vapor or gas, and in lamps heretofore constructed, upon the closing of the shutter such heated vapor has escaped around the outside of the shutter at the neck of the font cover and has frequently ignited; and as the heating of the parts consequent upon such ignition has continued the production of vapor within the font, the lamp has continued to burn at the neck of the font-cover, notwithstanding the complete closing of the shutter. It is to overcome this objection and to provide a vent for the font at all times that I have provided the double-tube shutter as heretofore described. The outer tube 10 is provided with a series of holes 18 preferably so located that when the shutter is fully closed said holes 18 will be within the neck of the font-cover and serve at that point to admit the vapor remaining within the font to the annular space between tubes 9 and 10, whence it escapes to the open air about the cap 6. If before the flame at the burner openings is fully extinguished the vapor issuing from the space about the cap shall ignite, it will quickly burn away as the flame at that point will not cause such heating of the parts within the font as to continue the generation of vapor.

I claim:—

1. In a vapor lamp, in combination with the font and the burner tube, a regulating shutter comprising inner and outer sleeves spaced apart, the space between said sleeves

affording communication between the interior of the font and the open air, and means for operating said shutter.

2. In a vapor lamp, the combination of
5 a font, a burner tube communicating with the font and having burner openings, a regulating shutter comprising inner and outer sleeves spaced apart and surrounding the burner tube, means for raising and low-
10 ering the shutter to cover and uncover the burner openings, the outer sleeve of the regulating shutter being provided with perforations.

3. In a vapor lamp, in combination with
15 the font and the burner tube, a regulating shutter comprising inner and outer sleeves spaced apart, means for raising the shutter to extinguish the lamp, the outer sleeve of said shutter being provided with perfora-
20 tions so located as to bring them to the up-

per part of the font when the shutter is fully raised.

4. In a vapor lamp the combination of a font, a burner tube, a cap on said burner tube, a regulating shutter surrounding said
25 burner and adapted when raised to project from the interior of the font, said shutter comprising inner and outer sleeves spaced apart, the inner diameter of the outer sleeve being greater than the diameter of the
30 burner tube cap, and means for raising the shutter to cause the inner sleeve thereof to abut against said cap.

In testimony whereof, I have signed my name to this specification, in the presence
35 of two subscribing witnesses.

WILLIAM M. SHEPHERD.

Witnesses:

CHARLES H. HOWSON,
WM. A. BARR.

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