H. WELLINGTON.

WALL-LAMPS.

No. 195,551. Patented Sept. 25, 1877.

Fig. 1.

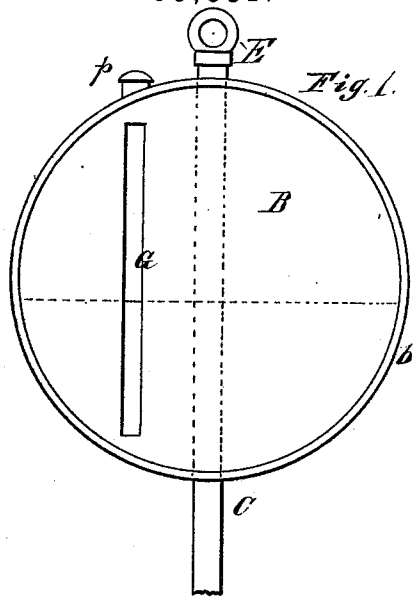


Fig. 2.

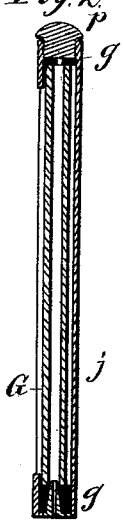


Fig. 4.

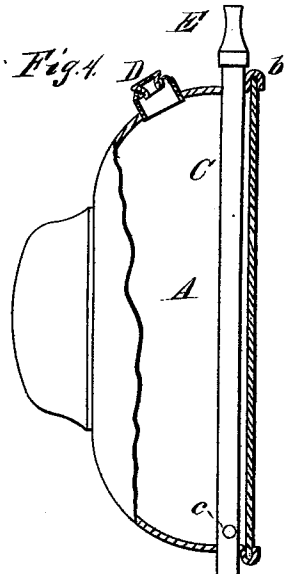


Fig. 3.

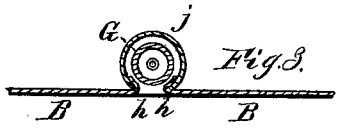
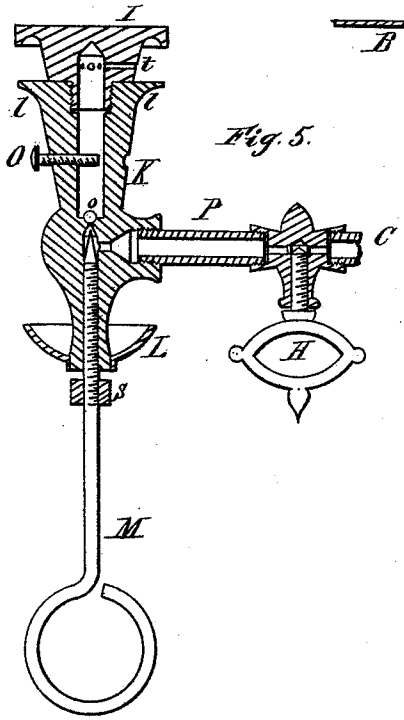
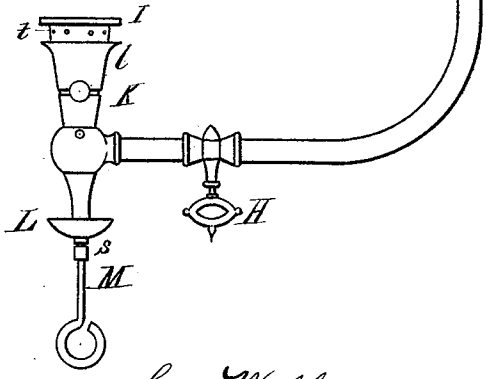


Fig. 5.





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IMPROVEMENT IN WALL-LAMPS.

Specification forming part of Letters Patent No. **195,551**, dated September 25, 1877; application filed March 16, 1877.

To all whom it may concern:

Be it known that I, HENRY WELLINGTON, of Brooklyn, E. D., county of Kings, and State of New York, have invented certain new and useful Improvements in Wall-Lamps, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is an elevation of the rear of the oil-supply fount, illustrating the location of the gage-tube and the extended oil-pipe, having the suspending eye or ring attached at its top. Fig. 2 is an axial section of the gage-tube and its surrounding parts; and Fig. 3, a horizontal section of the same, exhibiting the manner in which the tube is secured in the fount. Fig. 4 is a partial section and elevation of the fount or reservoir and its attached burner, illustrating in detail the method of connecting the reservoir to the supply-pipe, and the manner of inserting and securing the back plate. Fig. 5 is an enlarged axial section of the burner, indicating the main features thereof in detail.

Like letters in all the figures refer to corresponding parts.

My invention has relation to that class of lamps wherein hydrocarbon oils are consumed; and it consists, chiefly, in the manner of constructing the oil-reservoir, which is ordinarily placed against the wall, and in certain improvements upon the burner, all of which will be first fully described, and then pointed out in the claims.

The front portion of the fount A is usually spun up from a single piece of metal, and in semi-globular form, something as shown at Fig. 4, and the back plate, also of a single piece, is secured thereto by soldering. That the connection between these two parts may be perfectly oil-tight and easily and cheaply made, I spin out the edge of the globular portion slightly beyond its diameter near said edge, and after the back plate is laid thereon I spin this extended part over said plate, as plainly illustrated at *b*, Figs. 1 and 4. The joint between the two parts is then rendered oil-tight by soldering, and is found to be all that is desired with respect to the essential requisites named above.

I extend the pipe C entirely through the fount, and solder it thereto at bottom and top. The pipe should, of course, be perforated, as at *c*, near the bottom of the oil-vessel, in order that the material may find its way down the pipe C. Upon the top of the pipe C I place the screw-threaded eye E, as shown at Figs. 1 and 4, and this forms a very firm and secure suspending device, removing all strain due to the weight of the fount and burner from off the body of said fount, and relieving the attachment from liability to accident.

As the fount is made of metal, it not unfrequently happens that in filling the oil overflows at the filling-orifice before the operator is aware that the reservoir is full. This is a serious objection to the use of this class of lamps, inasmuch as the oil is more or less liable to take fire, and to soil the carpets, wall, or articles below the lamp. To overcome this objection and permit a view of the height of the oil in the reservoir, I attach a glass gage-tube thereto, as indicated at Figs. 1, 2, and 3. The front of the fount being globular in shape, it will be most convenient to place this gage at the back thereof, and, that the fount may rest well against the wall, I prefer to place it within the oil-chamber, which location is also preferable on account of the non-liability of the tube to accident while in use or in shipping.

A more particular description of securing this gage-tube in place is herein unnecessary, inasmuch as I propose to embody the several features of this portion of my invention in a subsequent application for Letters Patent.

The burner herein illustrated is of the type known as "vapor-burners," in which the oil is converted into gas, and then mingled with air before it is burned. The burner proper consists, essentially, of two parts, which are at first cast solid, (preferably of brass,) for the reason that the cast metal conducts the heat to the gas-generating chamber in a manner much superior to that of the heretofore commonly used spun metal; and inasmuch as it is desirable to construct this burner without an auxiliary heating-flame, this superior conducting-power is of considerable importance. The two parts are afterward properly fitted up to form the burner.

K is the main body of the burner, to which the drip-cup L and packing-tube P are attached in the usual way. The needle-valve M is inserted from the bottom, and an air-hole, *o*, drilled through the body K to supply air at the point of the valve, which, mingling with the gas, passes to the burner-top above, and there issues in the form of an illuminating-gas. At *s* is shown an adjustable screw-stop, which prevents the valve from being crowded too tightly against its seat, as fully explained in a previous application for a patent; and at O is a screw running into the gas-channel, its office being to check the passage of the gas, and thus prevent, as much as possible, the blowing or singing noise of the burner when in operation.

The top piece I is screw-theaded, as shown, for attachment to the main section. A central gas-channel is drilled partially through this, and at right angles to the channel are the minute perforations *t*, at the outer extremity of which the gas is ignited, and burns in the form of a number of small flames. The upper portion of the top I is extended out over the gas-orifices *t*, and this extension, together with that of the body K below, forms a protecting-channel for that portion of the flames next to the metal, serving to steady them from the effects of the ascending currents of air as they issue from the burner, at the same time covering only the blue portions of said flames.

The upper extremity of the body K is flared upwardly and outwardly, as shown at *l*, to direct the ascending currents of air gradually against the flames, and in a direction so that the amount of light given shall be as near the maximum as possible.

The auxiliary flame is dispensed with because it uses up some of the gas which otherwise would be available for lighting purposes, and because it creates an unequal draft of air about the sides of the burner, rendering the flame unsteady, besides increasing the cost of manufacture when properly made.

This form of burner gives very excellent results, and is, moreover, easy to make, cheaper than almost any other form of practical burner, and not liable to damage from use or accident.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an oil-reservoir for hanging lamps, the combination of the front globular portion and the back plate, the two being united by spinning the former upon the latter and then soldering the joint, as shown and described.

2. In combination with the cast-metal body of a vapor-burner carrying the needle-valve, drip-cup, and packing-tube, the cast-metal perforated top attached to said body by means of a screw, substantially as shown and described.

3. In combination with the burner-top I, perforated and screw-threaded, as shown, the body K, having outwardly-curved portion *l* leading upwardly toward the flame, and carrying drip-cup L and needle-valve M, as and for the purposes explained.

4. The herein-described cast-metal vapor-burner, the same being composed of the upper and lower parts I and K, to the latter of which are attached the supply-pipe, drip-cup, and needle-valve, the whole being constructed substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

HENRY WELLINGTON.

Witnesses:
CHAS. R. SEARLE,
GEO. F. GRAHAM.