J. S. WOOD.

Vapor Burner.

No. 111,893. Patented Feb. 14, 1871

Fig. 1

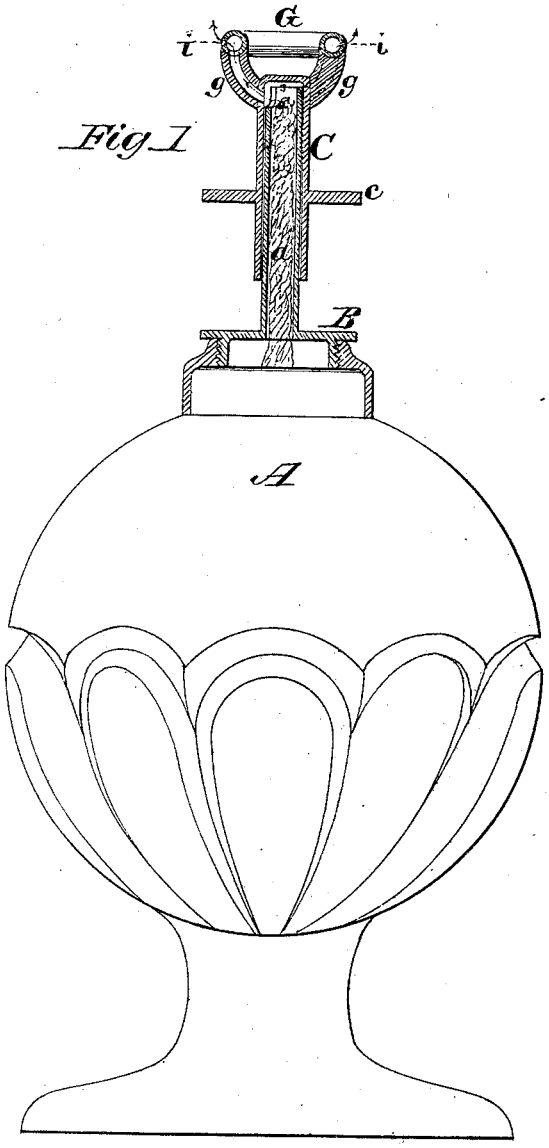
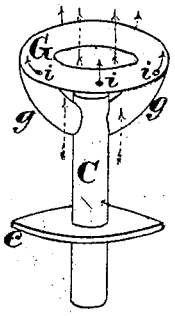


Fig. 2



Witnesses
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IMPROVEMENT IN VAPOR-BURNERS.

Specification forming part of Letters Patent No. **111,893**, dated February 14, 1871.

To all whom it may concern:

Be it known that I, JOSEPH S. WOOD, of the city and county of Philadelphia, in the State of Pennsylvania, have invented certain Improvements in Vapor-Lamps; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making part of this specification, in which—

Figure 1 is a side view of a lamp-bowl and a diametrical section through the improved burner and regulator. Fig. 2 is a perspective view of the burner.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to improvements of that class of lamps for burning the vapor of light hydrocarbon fluids which is constructed with vapor-generators between the wicks and the burners, whereby the fluid is vaporized by the heat of the flame, and the vapor is conducted through jets and burned.

First, the nature of my invention consists in the combination of a ring-burner, one or more curved or oblique supporting-arms, one of which is hollow, and a revolving tube, which is closed at its top and open at its bottom, with the stationary tube, which is notched or perforated at its upper end, so as to serve both as a support and regulator, the construction of the parts forming this combination being such that the ring-burner is above the top of the tube, and the top of the tube is above the base of the arm or arms which support the ring, and the notched end of the stationary tube is extended up to the chamber formed below the ring-burner, all as will be hereinafter described.

Second, it consists in the combination of a chamber with the tube of the ring-burner, and with perforated arm on which the burner is mounted, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will explain its construction and operation.

In the accompanying drawing I have represented the burner applied to a hand-lamp, A; but it is applicable to portable or stationary lamps of various kinds, also to chandeliers and brackets.

The cap B is applied to a metallic collar in the usual well-known manner, and rising from this cap is a wick-tube, *a*, one side of the upper end of which is cut away, as shown at *a'*, so as to expose part of the wick below the upper end of the tube *a*.

Upon the wick-tube is fitted a sleeve, C, the upper end of which is closed. This sleeve C is so applied that it can be adjusted around the tube *a*, either to the right or left, for which purpose the arms or handles *c* are applied to the sleeve, as shown by Figs. 1 and 2.

At points near the upper end of the sleeve C, and arranged diametrically opposite each other, branches *g g* are secured, which extend outward and upward, one of which is tubular and communicates with a chamber which is in a jet-ring, G, to which latter the branches are permanently secured. These branches *g* conduct heat from the flame to the upper end of the sleeve C, and the tubular one conducts vapor from the wick-tube, at the exposed portion of the wick, into the jet-ring. The jet-ring is supplied with more or less vapor, according to the size or brilliancy of flame required, by turning the sleeve more or less about the wick-tube, which will expose more or less surface of the wick opposite the lower end of the tubular branch tube. I thus utilize the wick-tube and sleeve, and make them serve as a cock for regulating the burner.

I employ a ring-burner of such size as will allow a continuous sheet of flame to be produced around it, supplied with air both internally and externally, somewhat after the manner of an Argand lamp-burner. In this way combustion is made very perfect, and a beautiful tulip-shaped flame will be produced by the expansion of the heated currents of air within the center of the flame.

What I claim as new, and desire to secure by Letters Patent, is—

1. The tube *a*, constructed with a notched aperture, *a'*, at its upper end, in combination with the horizontally-adjustable tube C, carrying a ring-burner, G, on the arms of its upper end, substantially in the manner and for the purpose described.

2. The chamber *s*, in combination with the tube C, perforated arm *g*, burner G, and lamp-tube *a*, in the manner and for the purpose described.

JOSEPH S. WOOD.

Witnesses:

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