

No. 680,921.

Patented Aug. 20, 1901.

E. S. HOUGHTON.
JEWELER'S BLAST LAMP.

(Application filed June 18, 1901.)

(No Model.)

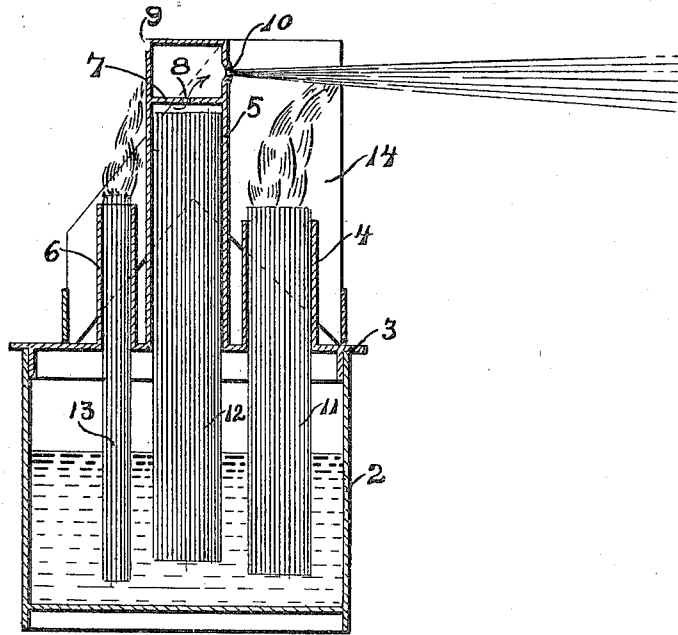


FIG. 2.

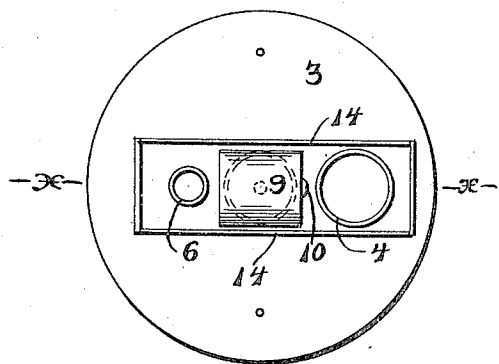


FIG. 1

WITNESSES
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UNITED STATES PATENT OFFICE.

EDWIN S. HOUGHTON, OF BRAINERD, MINNESOTA.

JEWELER'S BLAST-LAMP.

SPECIFICATION forming part of Letters Patent No. 680,921, dated August 20, 1901.

Application filed June 13, 1901. Serial No. 64,366. (No model.)

To all whom it may concern:

Be it known that I, EDWIN S. HOUGHTON, of Brainerd, Crow Wing county, Minnesota, have invented certain new and useful Improvements in Jewelers' Blast-Lamps, of which the following is a specification.

This invention relates to improvements in lamps designed especially for jewelers' use and by means of which it is desired to produce an intense heat, such as is required for the purpose of soldering or working gold and other refractory metals.

The invention consists generally in the constructions and combinations hereinafter described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a plan view of a lamp embodying my invention, and Fig. 2 is a central vertical section of the same on line *xx* of Fig. 1.

In the drawings, 2 represents a suitable reservoir of any preferred size and shape. This reservoir is provided with a cap 3, having extending vertically therefrom the tubes 4, 5, and 6. The tubes 4 and 6 are of substantially the same height and are each open at their upper and lower ends. The tube 5 is open at its lower end and at a point near its upper end is provided with a diaphragm 7, having an aperture or opening 8 therein. Above the diaphragm 7 is a small drum 9, having an aperture 10 in one of its side walls directly above the tube 4. Wicks 11, 12, and 13 are placed in the tubes 4, 5, and 6. A shield 14 is arranged on the cap 3 and extends to the top of the tube 5. This shield consists of two side walls, the upper ends of which are practically on a level with the top of the tube 5 and the opposite portions of which are inclined to substantially the height of the tube 6. The walls of the shield 14, extending above the tube 4 and to the top of the tube 5, prevent any currents of air from interfering with the steadiness of the flame produced by the lamp.

The operation of the device is as follows: The wicks 11 and 13 are lighted, and the alcohol or other hydrocarbon placed in the reservoir supplies the necessary fuel for a flame from each of said wicks. The tube 5 and the drum 9 being heated, the hydrocarbon, which is taken up by the wick 12, is vaporized and

issues from the orifice 10 with considerable force, owing to its rapid generation and expansion in the dome, caused by the heat from the flame of the wicks 11 and 13. This vapor, being projected from the orifice 10, meets the flame from the wick 11, and thereby a very intense heat is produced, capable of use for all purposes required by a jeweler, such as soldering or working gold or other metals. The flame from both of the wicks 11 and 13 serves to heat the tube 5 and dome 9, and while the flame from the wick 13 is only for the purpose of heating this tube and dome the flame from the wick 11 mingles with the vapor from the dome and assists in producing the intense heat required. As the shield 14 extends above the point where the vapor meets the flame from the wick 11, the air-currents are prevented from interfering with the proper action of the lamp, and thereby a perfectly steady flame of intense heat is secured.

I claim as my invention—

1. The combination, with the reservoir 2, of the cap 3 arranged thereon and provided with the three tubes 4, 5 and 6, the tube 5 being arranged between the tubes 4 and 6 and provided at its upper end with the diaphragm 7 having the orifice 8, the dome 9 arranged above said diaphragm and provided with the orifice 10 in its side wall above the tube 4, and suitable wicks arranged in said tubes 4, 5 and 6, for the purpose set forth.

2. The combination, with the reservoir 2, of the cap 3 arranged thereon and provided with the three tubes 4, 5 and 6, the tube 5 being arranged between the tubes 4 and 6 and provided at its upper end with the diaphragm 7 having the orifice 8, the dome 9 arranged above said diaphragm and provided with the orifice 10 in its side wall above the tube 4, suitable wicks arranged in said tubes, and the shield 14 having parallel side walls extending above the tube 4 and substantially to the top of the tube 5, as and for the purpose set forth.

In testimony whereof I have hereunto set my hand, at Minneapolis, Minnesota, this 4th day of June, 1901.

EDWIN S. HOUGHTON.

In presence of—

R. G. VALLENTYNE,
J. M. ELDER.