

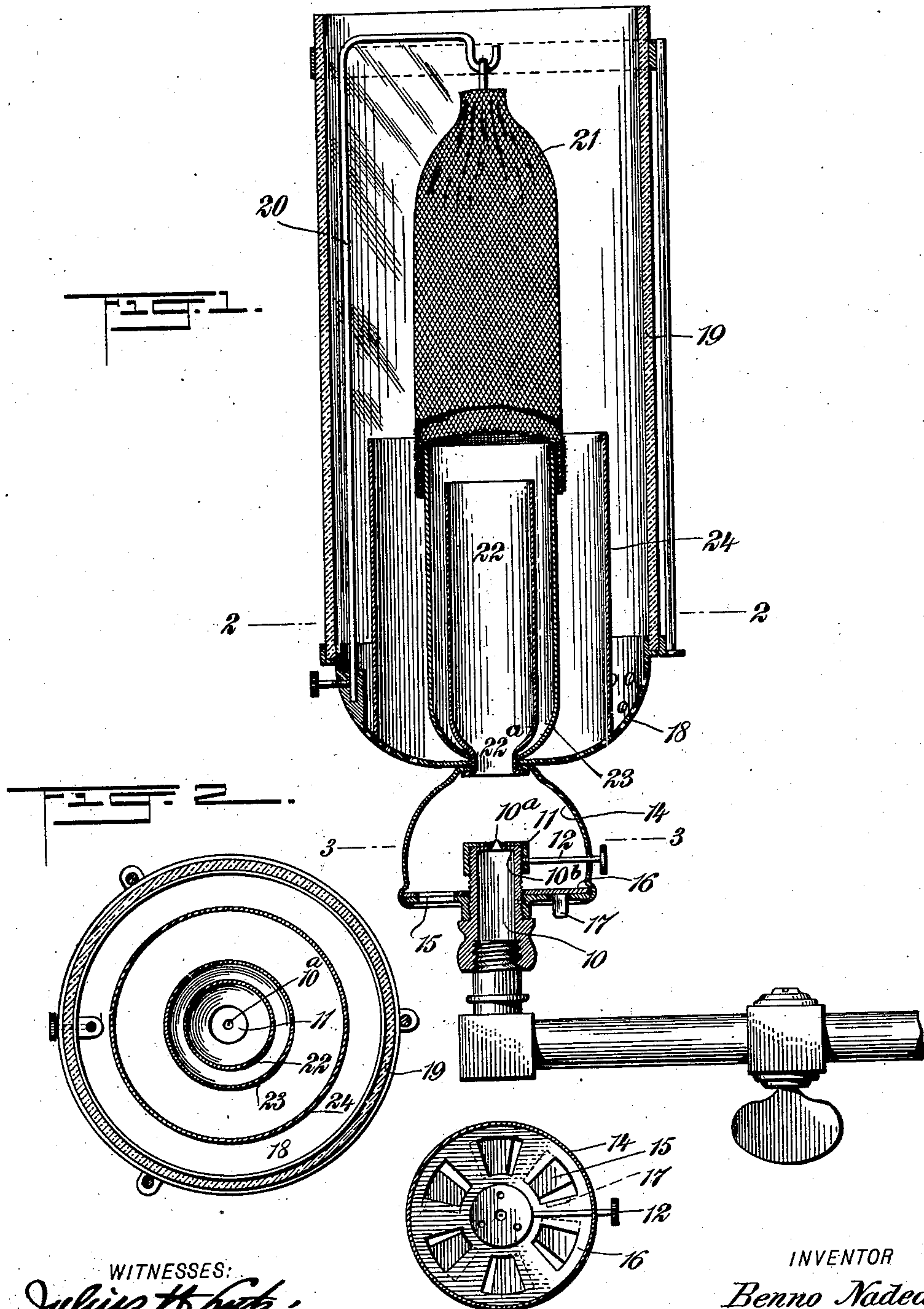
No. 728,599.

PATENTED MAY 19, 1903.

B. NADEAU.
LAMP.

APPLICATION FILED JULY 23, 1902.

NO MODEL.



WITNESSES:

Julius H. Smith

Isaac B. Owens

INVENTOR

Benno Nadeau

BY

Mumford
ATTORNEYS.

UNITED STATES PATENT OFFICE.

BENNO NADEAU, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO
AUGUSTUS SMITH, OF BOSTON, MASSACHUSETTS.

LAMP.

SPECIFICATION forming part of Letters Patent No. 728,599, dated May 19, 1903.

Application filed July 23, 1902. Serial No. 116,712. (No model.)

To all whom it may concern:

Be it known that I, BENNO NADEAU, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and Improved Lamp, of which the following is a full, clear, and exact description.

This invention relates to a lamp intended to be used with gas as a fuel and to carry an incandescent mantle.

The object of the invention is to improve the lighting efficiency of the lamp, which end I attain by certain novel features of construction and arrangement of parts serving to confine the heat to the immediate vicinity of the burner, thus facilitating the combustion of the gas.

This specification is an exact description of one example of my invention, while the claims define the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a vertical section of the invention. Fig. 2 is a section on the line 2 2 of Fig. 1, and Fig. 3 is a section on the line 3 3 of Fig. 1.

10 indicates the supply-pipe, which is threaded or otherwise mounted on the gas-fixture, as shown, and which has a regulating-cap 11, screwed on its upper end. The upper end of the supply-pipe 10 has a centrally-disposed orifice 10^a, which is open continuously, and additional orifices 10^b, located at the sides. These orifices 10^b are commanded by the cap 11, which is orificed to conform with the orifices 10^b and which by shifting the position of the cap will cover or uncover said orifices 10^b.

12 indicates an elongated thumb-screw, which is carried in the cap 11 and which may be turned to fasten the cap at the desired adjustment. This thumb-screw projects outward through a horizontal slot in the wall of the mixing-chamber 14 and is movable side-wise, so as to permit shifting the cap 11. To shift this cap, the screw should be first loosened, and after the cap is adjusted as desired by tightening the screw the cap may be held in place. The mixing-chamber 14 has its bottom 15 fastened on the supply-pipe 10 and

orificed, as shown. Over this orificed bottom 15 lies a regulator-plate 16, which is correspondingly orificed and provided with a thumb-piece 17, projecting downward to facilitate the turning of the regulator-plate. By means of this regulator-plate the size of the orifices in the plate 16 may be regulated at will, and thus the amount of air admitted into the mixing-chamber may be controlled. It will be observed, however, that the cap 11 regulates the volume of gas and the plate 16 the volume of air, and by the relative adjustment of these parts the proportions of the mixture of air and gas may be regulated to a nicety.

18 indicates the chimney-basket, which is perforated in the usual manner and supports the outer or main chimney 19 and also the rod 20 of the incandescent mantle 21.

22 indicates the burner-tube, which has a contracted throat 22^a, fastened in the lower part of the chimney-basket 18 and communicating with the mixing-chamber 14. Inclosing the burner-tube 22 is a tubular jacket 23, which is spaced from the tube 22 and projects upward slightly above the burner-tube, the upper end of the tubular jacket 23 fitting within the lower end of the mantle 21. These parts 22 and 23 provide a heating-chamber which surrounds the burner-tube and highly heats the gas as it passes to the mouth thereof, thus greatly promoting combustion and the consequent efficiency of the lamp. Surrounding the jacket 23 is an interior chimney or tubular shell 24. The lower end of the tube 23 is closed—that is to say, fresh air is not admitted to flow through the space between the parts 22 and 23. The casing or shell 24, however, rests on the bottom of the basket 18, and owing to the perforations in the basket the atmospheric air passes upward inside and outside of this shell. It is well known that a lamp having a chimney of slight diameter will produce more light than a chimney with a large diameter, the reason being that the heat is better confined to the mantle and is prevented from radiating from the sides of the mantle and burner. Small chimneys, however, have a decided disadvantage in that the intense heat tends to fracture them, and those chimneys made of mica

soon turn yellow and break off in slivers or small chips.

My invention attains all of the advantages of a narrow chimney and also of the wide chimney as heretofore employed, this being effected by the tubular shell or jacket 24, which confines the heat around the burner and mantle, and at the same time the main chimney 19, provided in the usual manner, protects the flame, but is not so small as to be injured by the heat of the lamp.

In the operation of the invention after the parts 11 and 16 have been adjusted to effect the proper admixture of air and gas the gas may be ignited and will burn inside of the mantle in the usual manner. The volume of air between the parts 22 and 23 will become highly heated and this heat communicated to the burner-tube. The gas passing through the tube will therefore be subjected to this heat and will reach the point of combustion in a highly-heated condition, thus greatly facilitating the combustion of gas and increasing the efficiency of the lamp. The shell 24 acts meanwhile to confine the heat adjacent to the burner by preventing radiation the same as though the chimney itself were of no greater diameter than this shell or interior chimney 24. Meanwhile the chimney proper, 19, being of relatively large diameter is sufficiently removed from the flame to avoid being fractured thereby.

Various changes in the form and details of my invention may be resorted to at will without departing from the spirit of my invention. Hence I consider myself entitled to all forms of the invention as may lie within the intent of my claims.

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

1. A lamp, comprising a supply-tube having a plurality of apertures in its end, an orificed cap mounted to turn on the discharge end of the tube for regulating the passage of gas, a mixing-chamber inclosing the discharge end of the supply-tube and discharging to the burner, and an orificed plate mounted over an orificed portion of the mixing-chamber to regulate the admission of air into the mixing-chamber, the said cap of the supply-tube having an elongated screw working therein to hold it removably in the position desired and said screw extending loosely through an opening in the wall of the mixing-chamber to the exterior thereof.

2. A lamp having a burner-tube, a jacket inclosing the said tube to form therewith a heating-chamber, said jacket having its lower end closed and its upper end open and adapted to receive a mantle, and a shell surrounding the jacket and spaced therefrom, the

lower end of the shell being open to the outer air.

3. A lamp having a mixing-chamber, a perforated chimney-carrying basket mounted upon the mixing-chamber, a burner-tube at the center of the basket and communicating at its lower end with the mixing-chamber, a jacket inclosing the burner-tube and forming therewith a heating-chamber, the lower end of the jacket being closed and its upper end open and extending above the burner-tube, and a shell projecting from the bottom of the basket between the jacket and the outer edge of said basket.

4. A lamp, comprising a chimney-basket having means at the outer edge thereof for holding the chimney proper, a burner-tube centrally located in the chimney-basket, a jacket inclosing the burner-tube and forming a heating-chamber between the burner-tube and jacket, the said jacket having its upper end open and its lower end closed, and an interior chimney or shell supported by the chimney-basket between the jacket and the chimney proper, for the purpose specified.

5. A lamp, comprising a supply-tube, a mixing-chamber inclosing the discharge end of the supply-tube, a perforated basket on the top of the mixing-chamber and having means at its outer edge for holding a chimney, a burner-tube at the center of the basket, a jacket inclosing the burner-tube to form a heating-chamber, said jacket having its lower end closed and its upper end open and extending above the burner-tube, said upper end being adapted to be engaged by the mantle, and a shell projecting from the bottom of the basket between the chimney and the jacket of the burner-tube, as set forth.

6. A lamp, comprising a supply-tube provided with a regulating-cap, a mixing-chamber having a contracted upper end and inclosing the discharge end of the supply-tube, a perforated basket on the contracted upper end of the mixing-chamber and having means for holding a chimney, a burner-tube at the center of the basket and having a reduced lower end, a jacket inclosing the burner-tube to form a heating-chamber, said jacket having its lower end closed and its upper end open, and extending above the top of the burner-tube, said upper end being adapted to project into a mantle, and a shell projecting from the bottom of the basket above the top of the jacket, as set forth.

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

BENNO NADEAU.

Witnesses:

JOHN H. McNARY,
JENNIE E. CAGGIANO.