

No. 632,652.

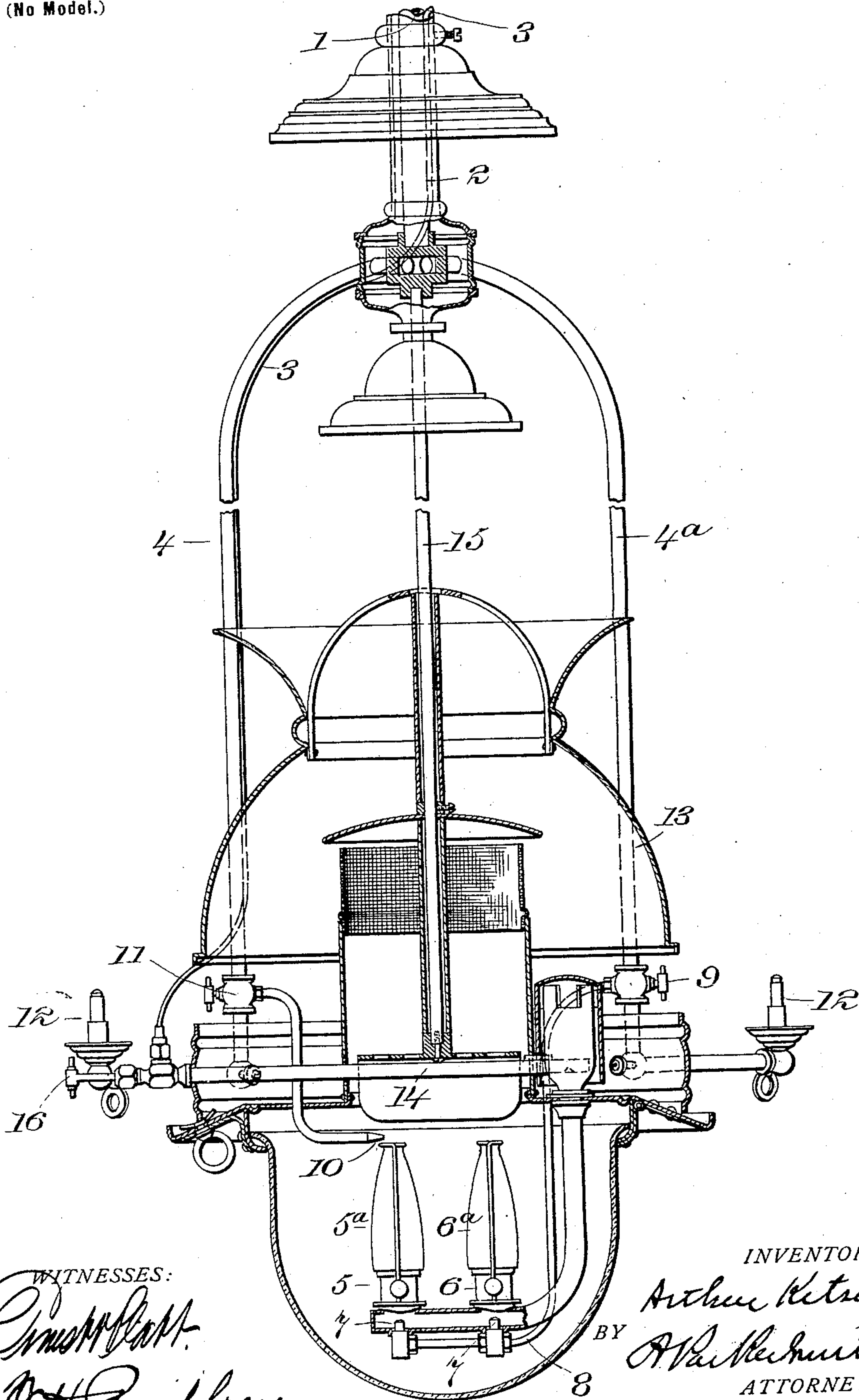
Patented Sept. 5, 1899.

A. KITSON.

COMBINED GAS AND VAPOR BURNING CHANDELIER.

(Application filed Jan. 14, 1899.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

ARTHUR KITSON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE
KITSON HYDROCARBON HEATING AND INCANDESCENT LIGHTING COM-
PANY, OF SAME PLACE AND CHARLESTON, WEST VIRGINIA.

COMBINED GAS AND VAPOR BURNING CHANDELIER.

SPECIFICATION forming part of Letters Patent No. 632,652, dated September 5, 1899.

Original application filed November 12, 1898, Serial No. 696,298. Divided and this application filed January 14, 1899. Serial
No. 702,140. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR KITSON, a sub-
ject of the Queen of Great Britain, and a resi-
dent of Philadelphia, county of Philadelphia,
5 State of Pennsylvania, have invented certain
new and useful Improvements in a Combined
Gas and Vapor Burning Chandelier, (Case
W,) of which the following is a specification.

My invention relates to gas and vapor burn-
10 ing apparatus; and it consists of an improved
form of chandelier for supporting a vapor-
burning lamp and supplying oil and gas there-
to and also supporting illuminating-gas burn-
ers and supplying gas thereto.

15 This application is a division of my appli-
cation, Serial No. 696,298, (Case Q,) filed No-
vember 12, 1898.

The preferred form of apparatus embody-
ing my invention is illustrated in the accom-
20 panying figure of the drawing.

The chandelier is supported from a central
suspension gas-pipe 1, which has a surround-
ing cylindrical ornamental covering 2. A
fine flexible tube 3 passes down inside of said
25 covering 2 and supplies oil to the vaporizing-
tube 14 of the vapor-burning apparatus. The
chandelier has a plurality of branch pipes 4
4^a radiating from the central suspension-pipe,
and these are connected to the ordinary illu-
30 minating-gas burners 12 12, so as to supply
gas thereto in any convenient manner. The
vapor-burning apparatus is suspended from
a central suspension-rod 15, continued in line
with the suspension gas-pipe 1, and this va-
35 por-burning apparatus has a plurality of va-
por-burners 5 and 6, provided with incandes-
cent mantles 5^a 6^a. Gas is supplied also to
each of these vapor-burners through the noz-
zle 7 7, let into the lower part of said burners
40 and connected by the pipe 8 with one of the
branch pipes of the chandelier, as 4^a. The
valve 9 controls the flow of gas through the
pipe 8. The pilot-burner 10 is arranged in
operative relation to one of the vapor-burn-
45 ers, as by placing it immediately over said
burner 5, as indicated in the drawing, and
this pilot-burner is supplied with gas through
the valve 11. An ornamental globe or other
protective covering 13 is preferably placed

over the vapor-burning apparatus to hide the 50
upper portion thereof from view.

The method of operating my invention is
as follows: The valve 11 is supposed to be
permanently open to a graduated extent to
supply the necessary small amount of gas to 55
keep a pilot-flame burning at the pilot-burner
10. When the vapor-burning apparatus is
to be thrown into operation, the valve 9 con-
trolling the supply of gas to the vapor-burn-
ers, is open and jets of gas rush up through 60
said burners from the nozzle 7 7, drawing in
the necessary amount of air to the mixing-
tube of the vapor-burning apparatus to cre-
ate a blue flame when the same is ignited.
The pilot-flame at the pilot-burner 10 ignites 65
the burner 5, and this is usually sufficient to
ignite the other burner 6. The heat thus pro-
duced heats the vaporizing-tube 14 to the
necessary degree to vaporize the oil, which
oil is then admitted from the oil-pipe 3 by 70
opening the valve 16. Oil-vapor is thus sup-
plied to the burners, and the gas-supply thereto
can be shut off by closing the valve 9 and the
apparatus will continue burning oil. In case
of any accident to the vapor-burning appa- 75
ratus or of the necessity for additional light
the illuminating-gas burners 12 12 can be
lighted.

The advantages of my invention consist in
its compact and convenient form, the gas for 80
both the illuminating-gas burners and the va-
por-burners being supplied from the ordinary
chandelier-pipe without the addition of extra
pipes.

I do not herein claim, broadly, the combina- 85
tion of a set of illuminating-gas burners and
Bunsen or heating burners with a vapor-
burning lamp, together with separate gas-sup-
ply connections to said sets of illuminating
and heating burners, respectively, as the 90
same is described and claimed in my pending
and before-mentioned application, Serial No.
696,298, of which this application is a division.

Having therefore described my invention,
what I claim as new, and desire to protect by 95
Letters Patent, is—

1. In a combined gas and vapor burning
fixture, the combination of the illuminating-

gas burners, the gas-supply pipes; the vapor-burning apparatus, the branch gas-supply pipe leading to the vapor-burners, the pilot-burner in operative relation to the vapor-burners, the second branch gas-supply pipe leading to said pilot-burner, and the valve controlling the branch that supplies gas to the vapor-burner, substantially as described.

2. In a combined gas and vapor burning fixture, the combination of the illuminating-gas burners, the gas-supply pipes, the vapor-burning apparatus, the branch gas-supply pipe leading to the vapor-burners, the pilot-burner in operative relation to the vapor-burners, the second branch gas-supply pipe leading to said pilot-burner, and the valve controlling the branch that supplies gas to the vapor-burners, together with the valve in the branch that supplies the pilot-burner, substantially as described.

3. The combination of the vaporizing and vapor-burning apparatus, having a plurality of vapor-burners, a pipe supplying gas to each of said vapor-burners, and a pilot-burner arranged in operative relation to one of said vapor-burners, substantially as described.

4. In a combination oil and vapor burning chandelier, the combination of the central suspension gas-pipe, a plurality of branch pipes radiating therefrom, a plurality of illuminating-gas burners supported by and con-

nected to said branch pipes, a vapor-burning apparatus arranged centrally of said gas-burners, and a central suspension-rod for said vapor-burning apparatus, together with the gas connection from the burners of said vaporizing apparatus to one of said branch pipes, and the valve controlling said connection, substantially as described.

5. In a combination oil and vapor burning chandelier, the combination of the central suspension gas-pipe, a plurality of branch pipes radiating therefrom, a plurality of illuminating-gas burners supported by and connected to said branch pipes, a vapor-burning apparatus arranged centrally of said gas-burners, and a central suspension-rod for said vapor-burning apparatus, together with the gas connection from the burners of said vaporizing apparatus to one of said branch pipes, and the valve controlling said connection, a pilot-burner for said vapor-burners, and a second gas connection from one of the branch pipes to said pilot-burner, substantially as described.

Signed by me at New York, N. Y., this 7th day of January, 1899.

ARTHUR KITSON.

Witnesses:

LILIAN FOSTER,
A. PARKER-SMITH.