

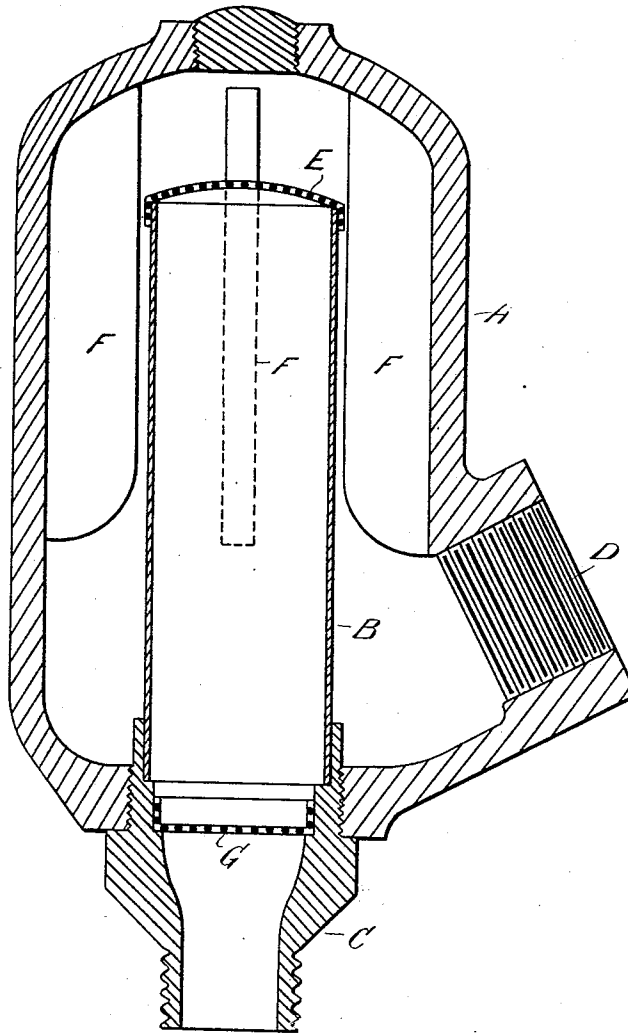
J. & G. KEITH.

GAS LAMP.

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1,042,798.

Patented Oct. 29, 1912.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES KEITH AND GEORGE KEITH, OF LONDON, ENGLAND.

GAS-LAMP.

1,042,798.

Specification of Letters Patent.

Patented Oct. 29, 1912.

Application filed June 5, 1912. Serial No. 701,826.

To all whom it may concern:

Be it known that we, JAMES KEITH and GEORGE KEITH, both subjects of the King of the United Kingdom of Great Britain and Ireland, and residing at London, England, have invented a certain new and useful Improvement in Gas-Lamps, of which the following is a specification.

This invention relates to improvements in inverted incandescent gas lamps particularly for use with high pressure gas and is a development of that described in the specification of Letters Patent No. 917,876.

As set forth in the said specification, the combination of a metallic preheater for the mixture and a heavy metallic nozzle offers important advantages; the merit of the said combination being primarily attributable to the fact that at one and the same time means are provided for heating the mixture as highly as possible and keeping the tip of the nozzle comparatively cool.

To increase the cooling effect on the nozzle, we now propose according to the present invention to provide a construction of heater to which the cold mixture is admitted in the vicinity of the nozzle whereby the mixture exercises immediately a cooling effect before being heated in its passage through the heater.

The invention is illustrated by way of example in the figure of the accompanying drawing which shows a heater of the type referred to fitted with a single nozzle.

Referring to the drawing, we fit within the heater A a preferably loose tube B affording the sole passage, or at least the main passage, to the nozzle C, *i. e.*, the lower end of the tube B being received in a recess in the nozzle C which is in screw-threaded engagement with, or otherwise secured to, the underside of the heater A.

The inlet connection D for the cold mixture is directed toward the nozzle C, but, as access to the nozzle can only be had through the tube B, the mixture, which, by playing on the nozzle C and the surrounding part of the heater A, serves to cool the nozzle, is constrained to pass upwardly within the heater and to enter the tube at its open upper end, and thence downwardly through the tube B to the nozzle C.

The tube B is preferably fitted at or near its upper end with a metallic gauze E and may be held in place by ribs or projections F on the inner wall of the heater A affording additional heating surface. A second metallic gauze G may be fitted adjacent the lower end of the tube B.

It will be understood that while we have spoken of a single nozzle and of a single tube, the invention is susceptible of being embodied in a construction comprising a heating chamber fitted with a plurality of nozzles and tubes and with one or more inlets.

Having now described our invention what we claim and desire to secure by Letters Patent of the United States is:—

1. In an inverted incandescent gas lamp, in combination, a heater for heating a mixture of gas and air, a nozzle connected to the lower end of said heater, said heater having a lateral inlet for the cold mixture located adjacent the lower end and directed toward the nozzle and a guide within the heater for causing the mixture to pass upwardly in contact with the walls of the heater, from the lower extremity to the upper extremity of the guide, and thence downwardly to the nozzle.

2. In an inverted incandescent gas lamp, the combination with a heater for a mixture of gas and air, of a nozzle connected to the lower end of said heater, said heater having a lateral opening directed toward the nozzle and located toward the lower end of the heater, a tube within the heater affording between its walls and the internal walls of the heater an annular passage up which the mixture passes before passing down the tube, and a layer of gauze covering the upper end of said tube.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JAMES KEITH.
GEORGE KEITH.

Witnesses:

WALLACE CRANSTON FAIRWEATHER,
JOHN McCLEARY.