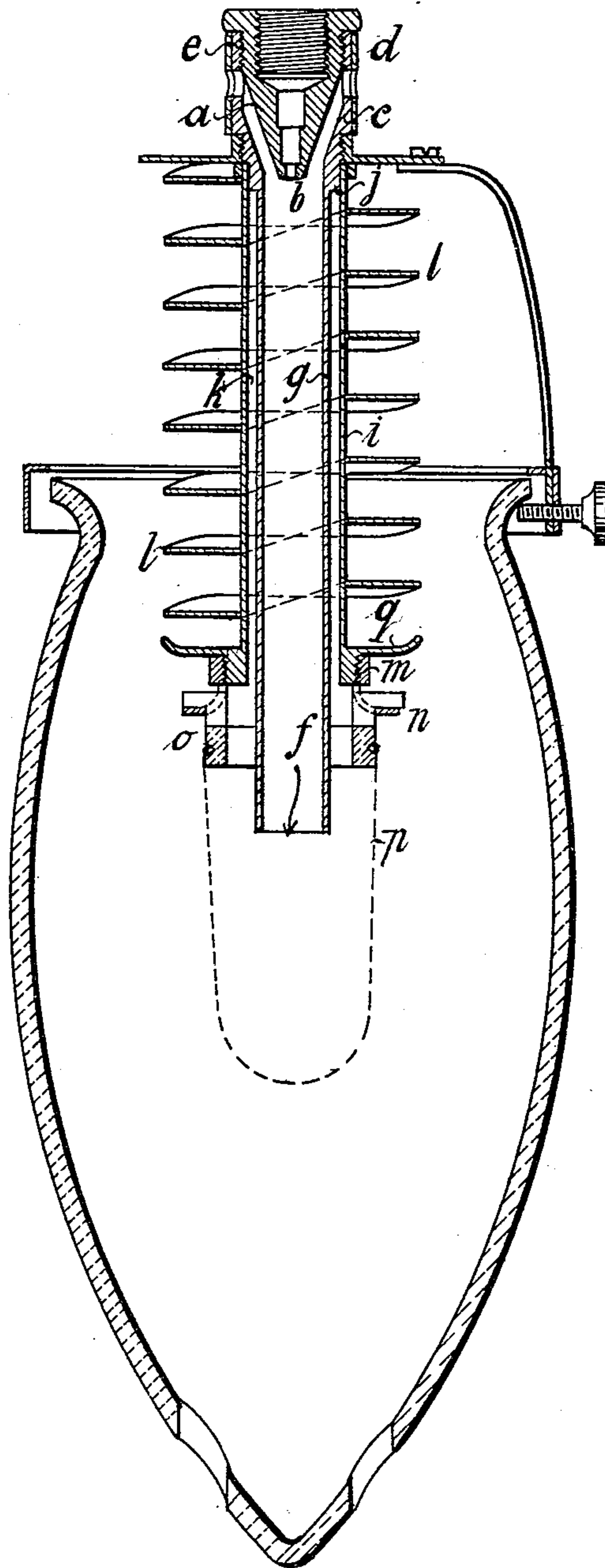


No. 733,473.

PATENTED JULY 14, 1903.

A. FARKAS.
INCANDESCENT GAS BURNER.
APPLICATION FILED JAN. 27, 1903.

NO MODEL.



Witnesses
A. J. Hadden
E. M. Moore

Inventor
Armand Farkas
by his Attorney *H. Hadden*

UNITED STATES PATENT OFFICE.

ARMAND FARKAS, OF PARIS, FRANCE.

INCANDESCENT GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 733,473, dated July 14, 1903.

Application filed January 27, 1903. Serial No. 140,741. (No model.)

To all whom it may concern:

Be it known that I, ARMAND FARKAS, a citizen of the French Republic, and a resident of Paris, France, have invented certain new and useful Improvements in Incandescent Gas-Burners, of which the following is a specification.

This invention relates to an incandescent gas-burner adapted to burn downward, in which the overheating of the mixing-tube and the other parts of the lamp by the heated gases of combustion is prevented by surrounding the Bunsen-burner tube with another tube, so that a layer of air adapted to insulate heat is placed between the Bunsen tube and the outer tube on which the gases of combustion impinge. The said outer tube can be provided with ribs or the like adapted to conduct heat outward.

One form of this invention is shown in the annexed drawing as an example.

The burner is a Bunsen burner of the usual construction, except that the nozzle *a*, with its aperture *b*, is at the upper part of the burner and that the mixing-tube *g* is directed downwardly. The air-inlet apertures are at the sides, as usual, and the mixing-chamber *c* is surrounded in the known manner by a ring *e*, provided with air-apertures *d*, corresponding with those in the burner, so that the supply of air can be controlled by adjusting the said ring *e*. The Bunsen flame is produced at the aperture *f* of the burner and heats a suitably-shaped incandescent body *p*. The aperture of the Bunsen burner can either be situated at the upper end of the incandescent body or can be a considerable distance within the latter. In the latter case the flame more thoroughly impinges on the incandescent body, but in the former case an incandescent body of special shape must be used.

The mixing-tube *g* of the Bunsen burner is surrounded by a jacket *i*, which is attached to the burner at *j*, for instance. By this means an annular chamber *k* is formed between the tube *g* and the said jacket *i*, and the said chamber only communicates with the outer air at its lower end. In order to allow from the first as little heat as possible to be transmitted from the gases of combustion to the mixing-tube in large burners, the said

jacket *i* is preferably provided with ribs *l* of large surface area. These ribs can be of any suitable shape and arranged in any suitable manner; but they must be good conductors of heat and have sufficient surface area to allow of rapid transmission of heat. The drawing represents, merely as an example, a helical metal strip surrounding the jacket *i*.

Below the heating-ribs *l* the jacket *i* is provided with a disk *q* and a socket *m*. The latter is provided with claws or the like *n* for holding the ring *o*, supporting the incandescent body *p*.

The purpose of the arrangement described is obvious. The heat generated by combustion is first transmitted from the incandescent body *p* to the disk *q* and the ribs *l*. Owing to the large superficial area of these parts the heat is radiated from them into the atmosphere without being transmitted to the Bunsen burner itself. The direct transmission of heat from the gases of combustion to the Bunsen burner is also very effectually prevented by the air inclosed in the chamber *k*. This air is of course considerably rarefied by being heated and forms an excellent heat-insulator.

I declare that what I claim is—

1. In an incandescent burner of the character described the combination of a downwardly-directed mixing-tube, a nozzle at the upper end thereof, an incandescent body at the lower end thereof, and an outer tube surrounding said mixing-tube so as to form an annular chamber closed at the top and adapted to contain air, substantially as described, for the purpose set forth.

2. In an incandescent burner of the character described, the combination of a downwardly-directed mixing-tube, a nozzle at the upper end thereof, an incandescent body at the lower end thereof, an outer tube surrounding said mixing-tube so as to form an annular tube closed at the top and adapted to contain air, and outwardly-directed heat-radiating bodies of comparatively large surface area on the exterior of said outer tube, substantially as described for the purpose set forth.

3. In an incandescent burner of the character described, the combination of a downwardly-directed mixing-tube, a nozzle at the upper end thereof, an incandescent body at

- the lower end thereof, said mixing-tube extending within said incandescent body, an outer tube surrounding said mixing-tube so as to form an annular chamber closed at the top and adapted to contain air, and outwardly-directed heat-radiating bodies, of comparatively large surface area, on the exterior of said outer tube, substantially as described for the purpose set forth.
- 10 4. The combination, with an inverted mixing-chamber for gas and air, of an air-chamber surrounding the said mixing-chamber, and a mantle supported under the said mixing-chamber and receiving from it the inflammable mixture.
- 15 5. The combination, with an inverted mixing-chamber for gas and air, of an air-chamber surrounding the said mixing-chamber and provided externally with heat-radiating bodies, and a mantle supported under the mouth of the said mixing-chamber.
6. The combination, with an inverted mixing-chamber for gas and air, and an air-chamber surrounding the said mixing-chamber; of a mantle connected to the lower part of the said air-chamber and supported by it in an inverted position under the mouth of the said mixing-chamber.
- In witness whereof I have signed this specification in the presence of two witnesses.
- ARMAND FARKAS.
- Witnesses:
ARNOLD HELLER,
DRATSCH SIGISMOND.