

(No Model)

P. VON FRAYS & H. BOSCH.
ACETYLENE GAS BURNER.

No. 583,286.

Patented May 25, 1897.

Fig. 1.

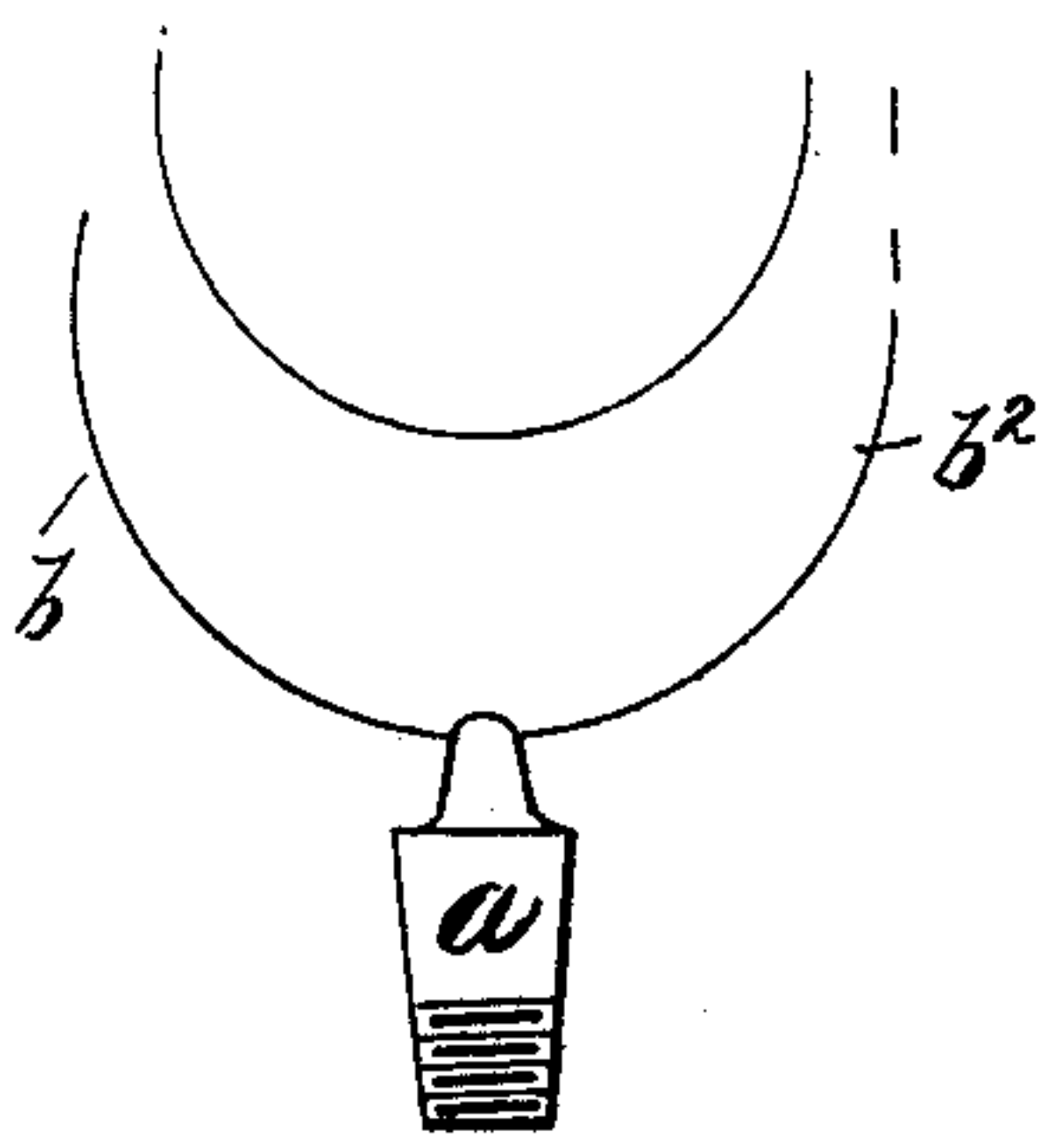


Fig. 2.

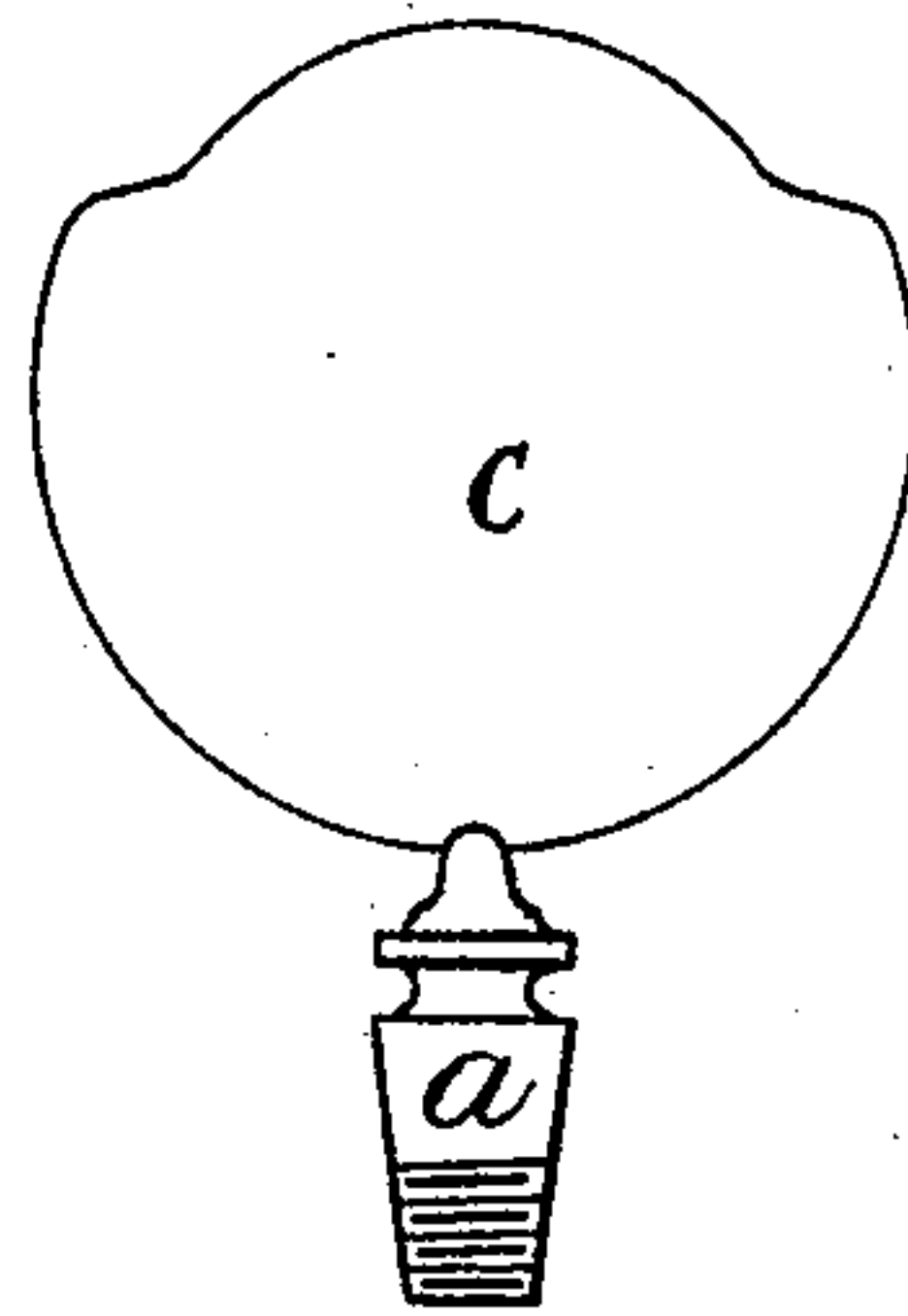


Fig. 3.

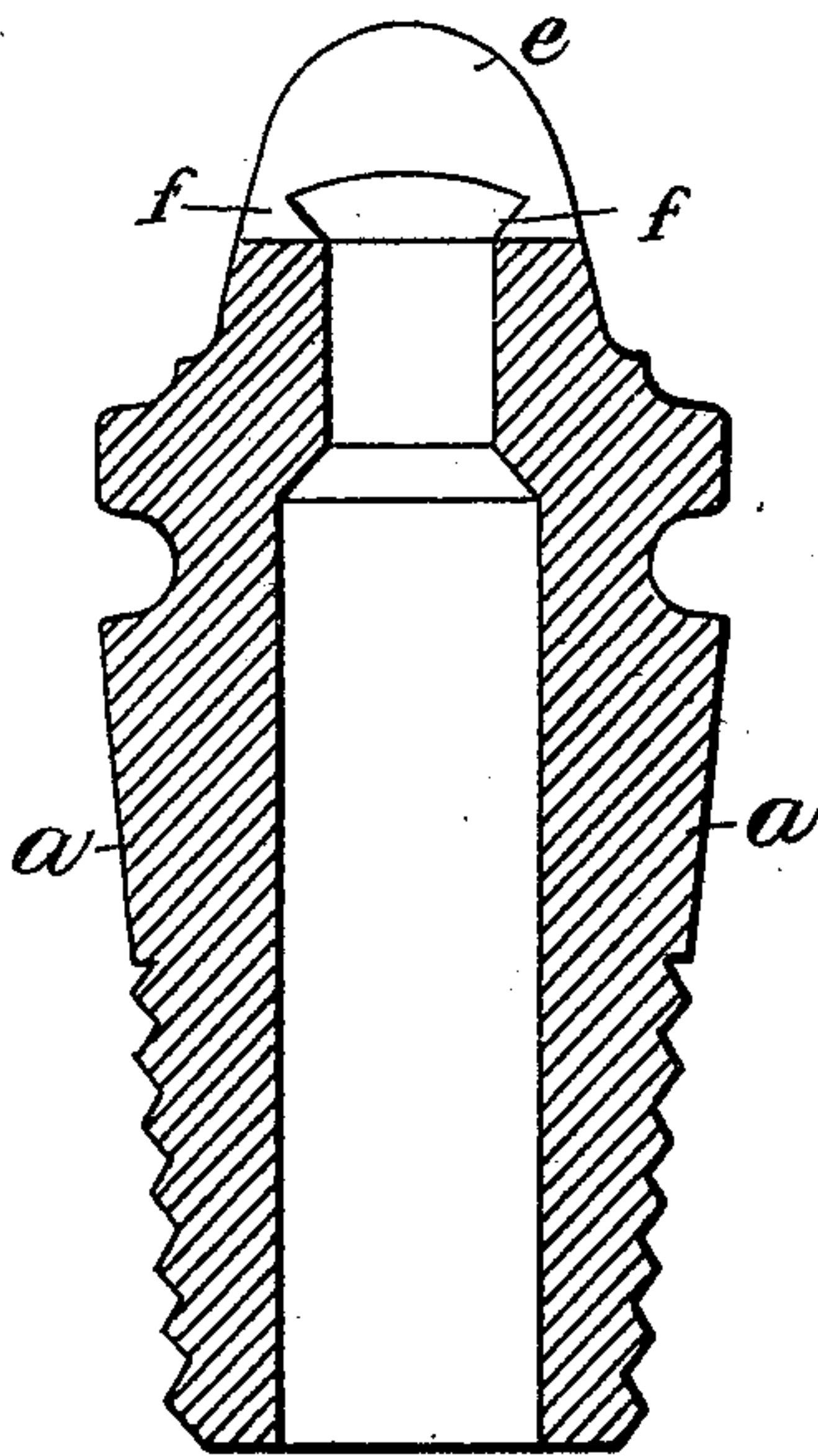
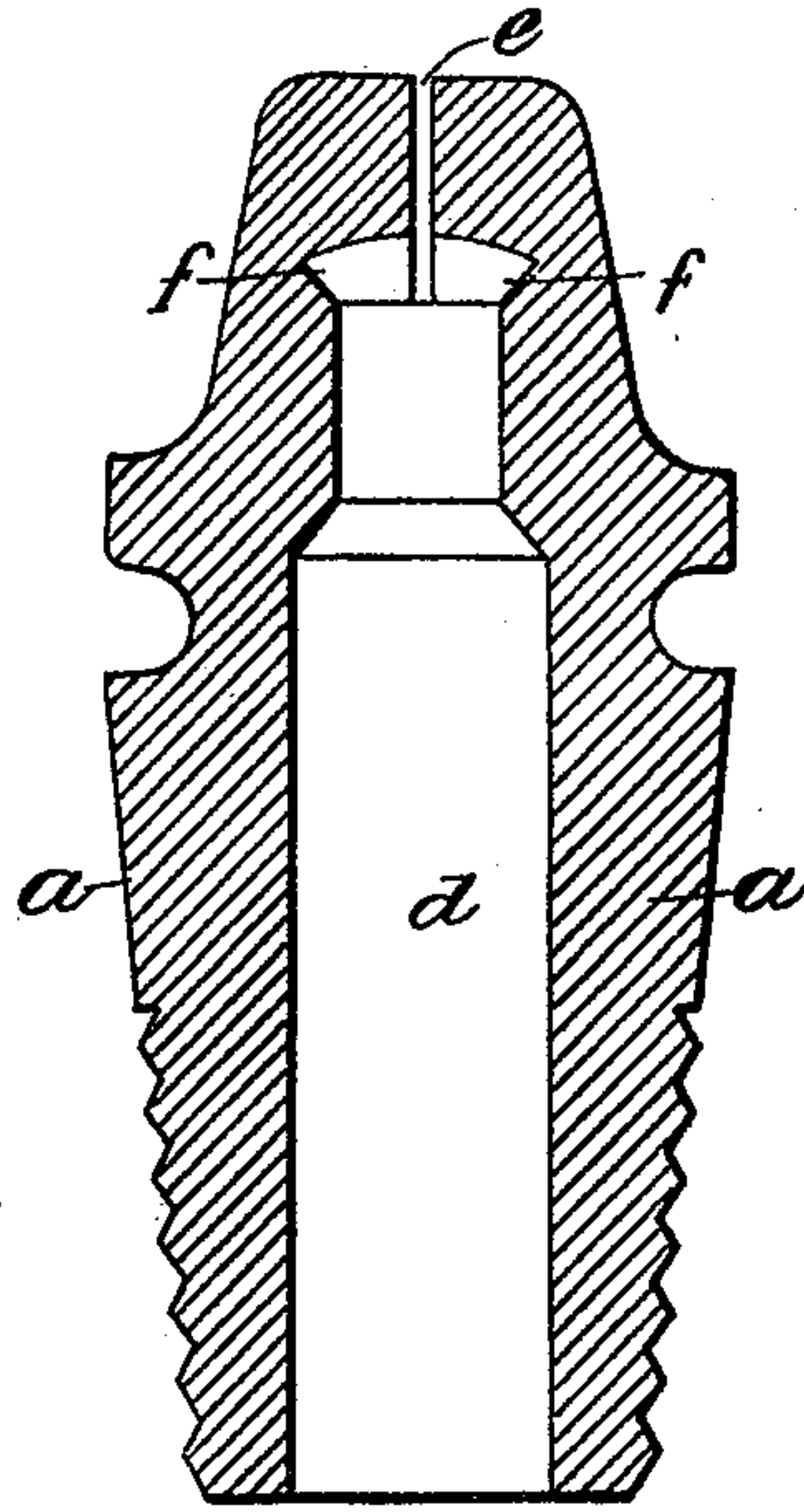


Fig. 4.



WITNESSES:

Edward L. Howland,
A. S. T. Fraumeni

INVENTORS

Philipp von Frays
Heinrich Bosch

BY

Charles J. Kuttner,

ATTORNEY

UNITED STATES PATENT OFFICE.

PHILIPP VON FRAYS AND HEINRICH BOSCH, OF NUREMBERG, GERMANY,
ASSIGNORS TO THE FIRM OF I. VON SCHWARZ, OF SAME PLACE.

ACETYLENE-GAS BURNER.

SPECIFICATION forming part of Letters Patent No. 583,286, dated May 25, 1897.

Application filed August 12, 1895. Serial No. 559,091. (No model.)

To all whom it may concern:

Be it known that we, PHILIPP VON FRAYS and HEINRICH BOSCH, subjects of the King of Bavaria, and residents of the city of Nuremberg, Bavaria, Germany, have invented Improvements in Acetylene-Gas Burners, of which the following is a specification.

Our invention is directed to improvements in gas-burner tips designed especially for use in connection with acetylene gas. It is well understood that the high illuminating power of acetylene gas is due to the separation of the particles of carbon during the process of combustion. If, therefore, this gas is burned with a common lava tip, such as is in well-known use, the best illuminating results are not obtained, and it is the especial object of our invention to devise a tip which will give the best possible illuminating effect from gas of this nature.

In order that our invention may be fully understood, reference is had to the accompanying drawings, in which—

Figure 1 is a side elevational view of a well-known form of gas-tip, illustrating also the form of flame which results in the use of acetylene gas with said tip. Fig. 2 is a similar view of our improved form of burner, illustrating its effects upon a similar flame. Fig. 3 is an enlarged sectional view of a well-known form of lava tip. Fig. 4 is a similar sectional view of our improved form of tip.

It is well understood that the high illuminating power of acetylene gas is due to particles of carbon contained in the gas.

Referring now to the drawings in detail and first to Figs. 1 and 2, *a* represents a lava tip which is provided with a hollow cylindrical body *d* and upwardly-extending flanged portion *ff* at its upper end.

e is the slit of the tip, which in such well-known forms of burners assumes a circular or curvilinear conformation. Owing to this fact more of the particles of gas escape at the sides or edges of the slit *e*, thereby causing

the flame to assume the horned conformation shown at *b'* and *b''*, Fig. 1.

Our improvement consists in contracting the main passage through the body at its upper end and providing at the upper end of this contracted portion and in close proximity to the slot an enlargement, as at *ff*, whereby an expansion or pressure-reducing chamber is provided, and thus so constructing the burner as to permit more of the gas to pass upward through the central portion of the slit than passes out at the side portions thereof.

Although we have described our invention as applicable to acetylene-gas burners, we do not limit its use to such burners, as it is obvious that it may be utilized with any kind of illuminating-gas.

We are aware of British patent to Sugg, No. 1,545, granted April 15, 1880, and of United States patent to Bray, No. 204,709, granted June 11, 1878, and we make no claim hereinafter broad enough to include such structures, our invention being directed to a specific improvement upon burners of the type shown in the aforesaid patents, said improvement being to a burner which permits a greater flow of gas at the axial center of the slit than is permitted at the lateral sides thereof.

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

An acetylene-burner tip having a hollow cylindrical body *d* cone-shaped at its upper end with a cylindrical exit of less diameter than said main body, and a reverse cone-shaped portion, in combination with a dome-shaped portion at the upper end of said reversed portion and a slit extending across the dome-shaped portion, all acting substantially as shown and described.

PHILIPP VON FRAYS.
HEINRICH BOSCH.

Witnesses:

OSCAR BOCK,
GEORG PIKOLASCH.