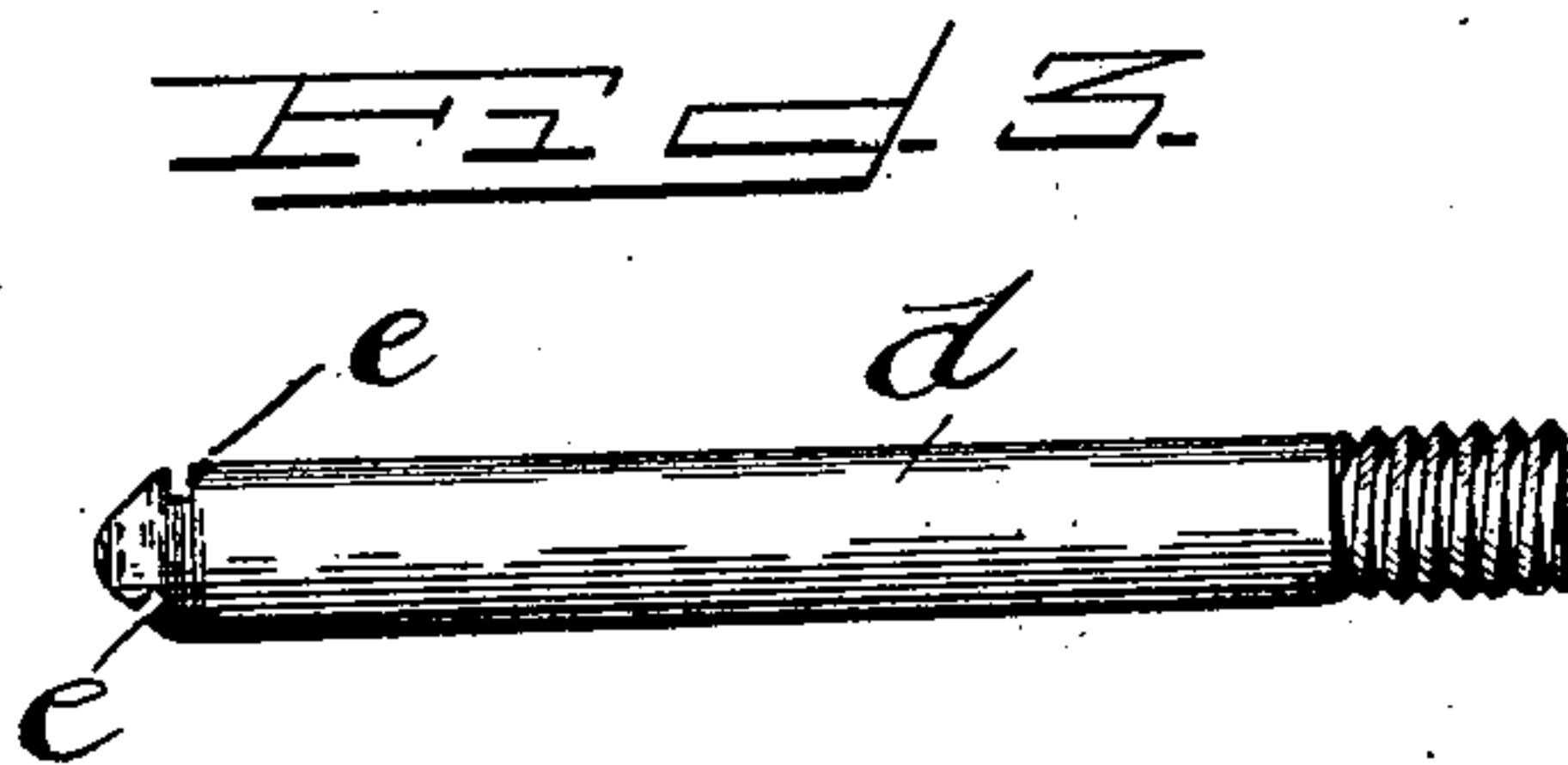
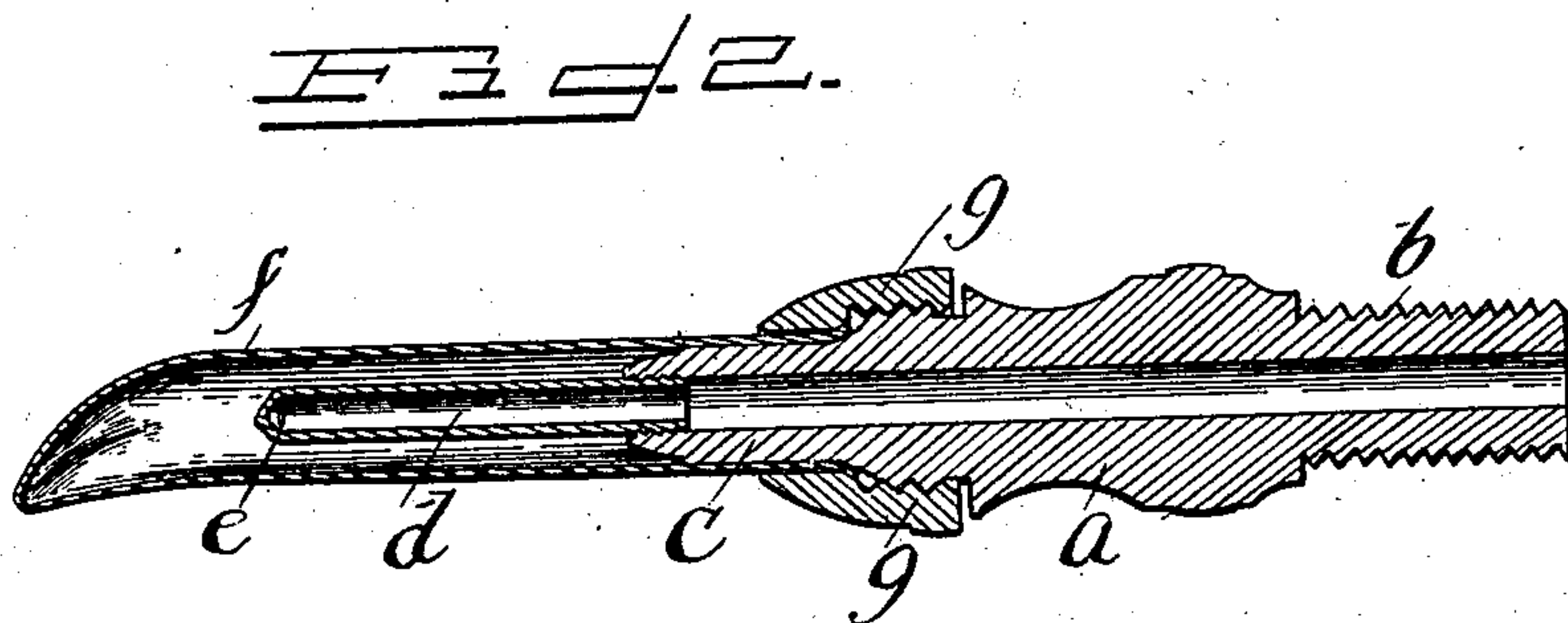
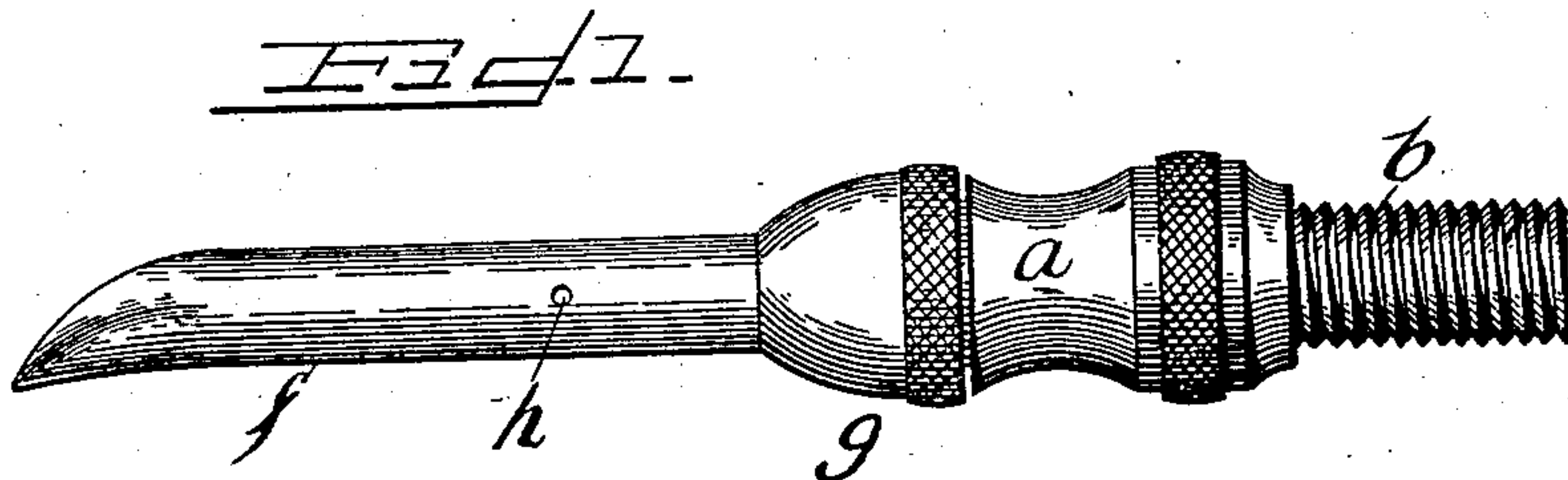


No. 724,397.

PATENTED MAR. 31, 1903.

F. A. REICHARDT.
PYROGRAPHIC BURNER.
APPLICATION FILED DEC. 1, 1902.

NO MODEL.



WITNESSES:

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FERDINAND ALFRED REICHARDT, OF NEW YORK, N. Y.

PYROGRAPHIC BURNER.

SPECIFICATION forming part of Letters Patent No. 724,397, dated March 31, 1903.

Application filed December 1, 1902. Serial No. 133,360. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND ALFRED REICHARDT, a citizen of the United States, and a resident of New York, county and State of New York, have invented Improvements in Pyrographic Burners, of which the following is a specification.

This invention relates to that class of pyrographic burners in which a suitable hydrocarbon gas by its combustion within the device produces the burning effects.

The object of this invention is to so improve this class of burners that the parts liable to deterioration and destruction will have greater life or lasting qualities and may when necessary be readily renewed, and at a less expense than can be or are such parts of these instruments as now made. These improvements will now be fully described by reference had to the accompanying drawings, in which—

Figure 1 is an outside view of a pyrographic burner embodying my improvements. Fig. 2 is a longitudinal section of the same; and Fig. 3 is a view of the burner-tube, illustrating my improvements therein.

This pyrographic burner is of few parts, consisting of a body portion *a*, longitudinally perforated and provided at one of its ends with a screw-thread neck *b*, by means of which it may be attached to a source of hydrocarbon-supply. At its other end is formed a shank *c*, in the end of which, in continuation of the longitudinal perforation, is secured, by means of the screw-thread, the burner-tube *d*. A combustion-chamber or shell *f*, which is closed at its outer end, incloses the burner-tube *d*, its inner end being formed to fit snugly over the shank *c* of the body *a*, the edge of the inner or open end of the shell *f* being flared or flanged outwardly, thereby affording means for screw-cap *g* by the inner edge of its perforation engaging therewith to draw said shell over and hold it firmly on the shank *c* as said screw-cap by its internal thread is screwed onto the body *a* over a correspondingly-formed thread on the body just below its shank *c*.

One of the principal troubles in the use of burners of this character as now made is the burning out or welding together of the parts of the orifices of the burner-tubes by reason

of the intense heat generated within the shell *f* or combustion-chamber. These devices have heretofore been made with open ends, on and around which caps of wire-gauze of fine closely-woven wire or spirals of fine wire have been placed, with the object of causing the gases through said tubes to issue therefrom and against the inner walls of the shell *f* in as fine and distributive streams as possible. As before stated, such distributive means, by reason of the thinness or tenuity of the material of which they are made, soon become burned out or their parts become welded together, so that the apparatus as a whole is useless. By experience it is found that by closing the end of the burner-tube *d* of such devices and perforating said ends with a series of minute openings or holes for the distribution of the combustible gases into the interior of the shell *f* the lasting quality of such devices is greatly increased. It is found preferable to form such opening as narrow slits or slots, as shown at *e* in the drawings. These may be distributed in any suitable way at or near the closed end of the burner-tube *b*. By the use of such narrow slits or slots the gases issuing from the burner impinge in thin streams against the inner walls of the shell *f* and are thereby brought into condition for perfect combustion, besides which the burner's tube having the escape-openings for the gases (here preferably shown as slits or slots) formed directly through their walls, such burners are more effectively permanent than are those having extending or projecting caps placed over their open ends. The combustion-chamber or shell *f* is provided with an opening *h* for the escape therefrom of the products of combustion.

As will be readily seen, the combustion-chamber or shell *f* of different forms may be readily applied to the body *a*, or old worn-out ones may be readily renewed by new ones, by simply unscrewing the cap *g* and slipping the burner off the shank *c*, the new one being placed on the shank and the screw-cap run over it to secure it in place. The burner-tube *d* may be readily renewed, as is apparent, it being simply screwed into the end of the shank *c*.

I claim as my invention—

1. In a pyrographic burner in combination

a combustion-chamber or closed-end shell; and a burner-tube, located in said combustion-chamber or shell, closed at its end and having small openings at or near its closed
5 end for the issuance of the combustible gases from the burner-tube to the interior of the shell.

2. In a pyrographic burner in combination a combustion-chamber or closed-end shell;
10 and a burner-tube, located in said combustion-chamber or shell, closed at its end and having narrow slits at or near its closed end for the issuance of the combustible gases from the burner-tube to the interior of the
15 shell.

3. In a pyrographic burner in combination, a base centrally perforated and having means at one of its ends, as a screw-thread, for attachment to a source of gas-supply; a burner-
20 tube having narrow slits at or near its end and secured, as by a screw-thread, to the other end of the base; a combustion-chamber or closed-end shell surrounding the burner

and seated on the shank of the base outside the burner-tube connection; and a cap 25 screwed on the base and embracing the shell to hold it on the shank.

4. In a pyrographic burner in combination, a base centrally perforated and having means at one of its ends, as a screw-thread, for at- 30 tachment to a source of gas-supply; a burner-tube secured, as by a screw-thread, to the other end of the base; a combustion-chamber or closed-end shell surrounding the burner-tube having an outturned flange at its lower 35 end and seated on the shank of the base outside the burner-tube connection; and a cap screwed on the base and embracing the shell by its outturned flange to hold it on the shank.

In testimony whereof I have hereunto sub- 40 scribed my name this 24th day of November, 1902.

FERDINAND ALFRED REICHARDT.

Witnesses:

ARTHUR C. BLATZ,
M. NIXON.