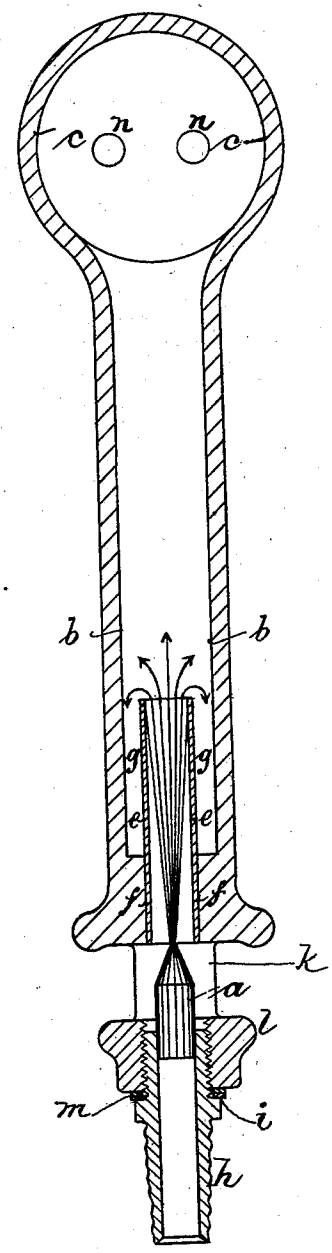
No. 664,595. Patented Dec. 25, 1900.

F. TRENDEL.

ACETYLENE GAS BURNER FOR COOKING STOVES, &c.

(Application filed Dec. 5, 1899.)

(No Model.)



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UNITED STATES PATENT OFFICE.

FRITZ TRENDEL, OF BERLIN, GERMANY.

ACETYLENE-GAS BURNER FOR COOKING-STOVES, &c.

SPECIFICATION forming part of Letters Patent No. 664,595, dated December 25, 1900.

Application filed December 5, 1899. Serial No. 739,282. (No model.)

To all whom it may concern:

Be it known that I, FRITZ TRENDEL, a subject of the Emperor of Germany, residing at Michaelskirchplatz 22, Berlin, Germany, have invented certain new and useful Improvements in Acetylene-Gas Burners for Cooking-Stoves and the Like; and I do hereby declare the following to be a full, clear, and exact specification of the same, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, forming a part of the specification.

Experiments have shown that a thorough mixture of acetylene and air as used for cooking purposes burns at first with a non-luminous flame; but as soon as the cooking-stove becomes hot there is no longer a complete mixture, but the flame has a luminous core produced by an imperfect mixing of the gas with the air.

This invention has for its object to provide a burner which shall produce a non-luminous flame and maintain the same under all ordinary conditions.

In the accompanying drawing, which is a vertical sectional view of the invention, *h* is the gas-supply pipe, provided with a shoulder *i* and exteriorly threaded from said shoulder to its outer end, the tip or nozzle *a* being secured in the open upper end of the pipe *h*.

b is the principal mixing-pipe, which is supported on arms *k*, formed integral with the said pipe and with a collar *l*, which is threaded upon the upper end of pipe *h*, a packing-ring *m* being interposed between the lower end of said collar and the shoulder *i* of pipe *h* to make a tight joint between the collar *l* and pipe *h* and leaving spaces for the entry of air between the arms *k*.

In a narrow opening in the bottom of pipe *b* is, as at *f*, secured a mixing-pipe *e*, of smaller diameter than pipe *b* and projecting up into the interior of said pipe *b*, leaving a space *g*, as shown.

Formed with and at the upper end of pipe *b* is a globular head *c*, which forms the main burner, being provided with suitable openings *n*. While the acetylene gas and air are thoroughly mixed by means of the narrowed mixing-pipe *e*, the hollow space prevents the mixture of air and gas from being intercepted at the outlet-opening of the narrow tube *e*, the velocity of the inflow from diminishing, and any interference with the thorough mixing of the gas and air.

The gas has rather a free course and can at once spread out, the effect of which is that the acetylene-burner burns continuously with a uniform non-luminous flame even when it is fully heated and is under moderate pressure. If, on the other hand, the space between the narrow mixing-tube *e* and the farther mixing-tube *b* be completely filled, the air and gas will no longer be thoroughly mixed when the stove is once heated.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

An acetylene-gas burner comprising the supply-pipe *h* shouldered at *i* and exteriorly threaded from said shoulder to its outer end, the collar *l* threaded upon said pipe, the arms *k* formed integral with the collar, the main mixing-pipe formed integral with and supported by said arms at a distance above said collar, said pipe *b* being provided with an opening in its bottom of less diameter than its main body, a mixing-pipe *e* secured in said opening, projecting up into the pipe *b* and leaving an annular space, and a main burner *c* formed integral with and at the upper end of pipe *b* and provided with openings *n*, all substantially as described and for the purposes set forth.

In witness whereof I have hereunto set my hand in presence of two witnesses.

FRITZ TRENDEL.

Witnesses:

HENRY HASPER,

WOLDEMAR HAUPT.