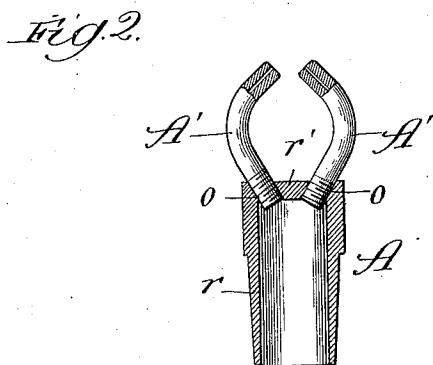
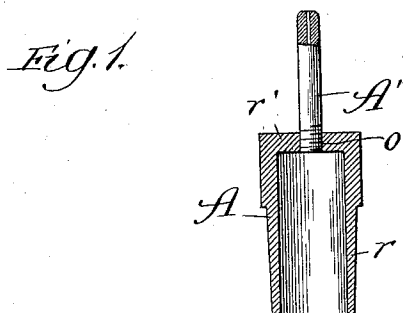


(No Model.)

H. F. FULLER.
BURNER FOR ACETYLENE GAS.

No. 580,126.

Patented Apr. 6, 1897.



Witnesses:
Chas. E. Chafford
Lutic & Allen

Inventor
Henry F. Fuller,
By *Dyrenforth & Dyrenforth,*
Attys.

UNITED STATES PATENT OFFICE.

HENRY F. FULLER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE WALMSLEY,
FULLER & COMPANY, OF SAME PLACE.

BURNER FOR ACETYLENE GAS.

SPECIFICATION forming part of Letters Patent No. 580,126, dated April 6, 1897.

Application filed May 20, 1896. Serial No. 592,272. (No model.)

To all whom it may concern:

Be it known that I, HENRY F. FULLER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Burners for Acetylene Gas, of which the following is a specification.

In the use of acetylene gas for illuminating and heating a hitherto insurmountable difficulty has been encountered owing to the tendency of the burners obtainable for applying it to these purposes to accumulate on them and upon their tips, when the lights are turned low, deposits of unconsumed carbon, whereby the burners rapidly become clogged, and the gas evolves smoke, more or less profusely, when the lights are turned up. The attempt has been made to overcome these obstacles to the use of such burners by regulating to a nicety the pressure of the gas in accordance with the condition of use of the burner under the control of its cut-off valve; but the inevitable variation in the gas-pressure under the different conditions of use of the gas renders this manner of regulation unreliable and unsatisfactory, since it does not prevent blowing and consequent flicker of the flame nor the generation of smoke in burning the gas.

My object is to provide a construction of burner-tip for burning acetylene gas which shall perform its function perfectly, thus burning with a steady and smokeless flame, irrespective of any variation in pressure in the gas supplied to it or of any condition of regulation of the flame by the controlling-valve of the burner.

To this end my invention consists, essentially, in forming the tip of a burner for acetylene gas with a capillary tube throughout its length extending outward from the upper end of the tubular body of the tip.

Referring to the accompanying drawings, Figure 1 shows my improved burner-tip enlarged beyond its natural size by a vertical sectional view; and Fig. 2 is a similar view of the same, showing a modification.

A is the tubular body of my improved burner-tip, adapted to be connected with any suitable burner-tube. (Not shown.) It has a cover *r'* at its outer end, the whole being

preferably formed of metal; and from a minute opening *o* in the cover there projects from the latter a capillary tube A', of metal, the length of which may be about one-half an inch, more or less. A tip formed with two of these capillary tubes, as shown in Fig. 2, or of a greater number of them, is within my invention, each proceeding from a minute outlet-opening in the end of the cover *r'*; but when a plurality of these capillary tubes are employed they should be bent about midway between the ends of each, as shown, to converge toward their upper ends for the purpose of impinging against each other the gas-currents discharging from them to expand the flame accordingly and permit any deposits of unconsumed carbon upon their extremities to drop off by gravity and thus prevent clogging of the burner by accumulation of such deposits.

The capillary tip acts as a pressure-reducer and enables the flame to be raised and lowered to any desired extent without causing smoking to ensue and without changing the quality of the light. Moreover, the capillary tip renders the burner a safety-burner, since it precludes the possibility of ignition within it of the gas without the use of any packing to prevent such ignition, and it presents such a very small area of metal to contact with the flame that but little abstraction of its heat ensues, and there is in consequence no appreciable loss of light.

What I claim as new, and desire to secure by Letters Patent, is—

1. As a new article of manufacture, a burner-tip for acetylene gas comprising a tubular body A having a capillary tube A' extending from its covered end, substantially as and for the purpose set forth.

2. As a new article of manufacture, a burner-tip for acetylene gas comprising a tubular body A having a number of capillary tubes A' extending from its covered end and bent to converge toward their outer extremities, substantially as and for the purpose set forth.

HENRY F. FULLER.

In presence of—

J. H. LEE,

R. T. SPENCER.