

(No Model.)

H. F. FULLER.
BURNER FOR ACETYLENE GAS.

No. 571,875.

Patented Nov. 24, 1896.

Fig. 1.

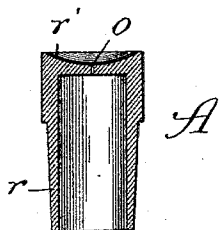
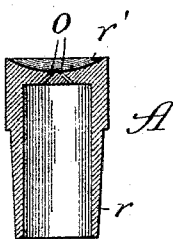


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY F. FULLER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE WALMSLEY,
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BURNER FOR ACETYLENE GAS.

SPECIFICATION forming part of Letters Patent No. 571,875, dated November 24, 1896.

Application filed May 20, 1896. Serial No. 592,273. (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.

The object of my invention is to solve the problem of a burner for acetylene gas which will not become choked when the light is turned low by the accumulation of carbon and which will not cause smoking when the light is turned up. The objectionable deposit of carbon and smoking are found to ensue with every known construction of gas-burner which I have tried to use, so that they are unfit for use as acetylene-gas burners and would preclude the general introduction of this extremely desirable gas as an illuminating and heating agent. I overcome these defects and provide a perfect burner for acetylene gas by forming the tip entirely of metal and unpacked, and providing in the thickened concave metal top or cover portion of the tip one or more minute holes for the gas-outlet, through which to feed the flame. This construction is illustrated in the accompanying drawings, in which—

Figure 1 represents my improved burner, on a scale greatly exaggerated over the natural size, by a vertical sectional view; and Fig. 2 is a similar view of the same, showing a modification.

A is my improved burner-tip for acetylene gas, comprising a tubular body *r*, of metal, adapted to be inserted into any suitable burner-tube (not shown) and having its metal top *r'* thickened about its edge portion and provided with a single minute opening *o*, as shown in Fig 1, or, as shown in Fig. 2, with two such openings, or with more than two, if desired, which should converge from the inner surface of the top to its outer surface, as represented, thereby to cause impingement at the outer end of the burner of the divided gas-currents and thus induce spreading of

the flame. I prefer to make the tip of metal adequately thin to adapt it to be formed by punching; but it may be otherwise formed of thicker metal and perform its function at least as satisfactorily.

It appears that the advantage of my improvement is primarily attributable to the metal of which the tip is formed entire, with the thickened top, since by reason of the superior degree of conductivity of the metal it becomes highly heated by the flame and remains in that condition during ignition of the burner, whereby the interior of the tip forms an initial combustion-chamber in which the gas is confined owing to the smallness of the outlet, and the carbon constituent of the gas is, for the most part at least, gasified before ignition, thus preventing the accumulation of carbon by deposition in and on the burner and, as a consequence, smoking of the gas in the use of the burner. Moreover, with my improved tip packing in the burner may be dispensed with, with the advantage that thereby an element liable to become clogged with carbon is avoided.

The concavity in the outer surface of the top *r'* is also essential to prevent smoking of the burner, and to attain the best results from the burner the further thickening of the top about its center is necessary, since thereby the heat is better retained and intensified to enhance the combustion of the gas.

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

A burner for acetylene gas comprising a tip formed throughout of metal and composed of a tubular body having a thickened top increased in thickness around its center and concave on its outer surface, and provided with one or more minute holes extending through it to afford the burner outlet, substantially as and for the purpose set forth.

HENRY F. FULLER.

In presence of—

J. H. LEE,
R. T. SPENCER.