J. F. BARKER.

GAS-BURNER.

No. 186,920. Patented Feb. 6, 1877.

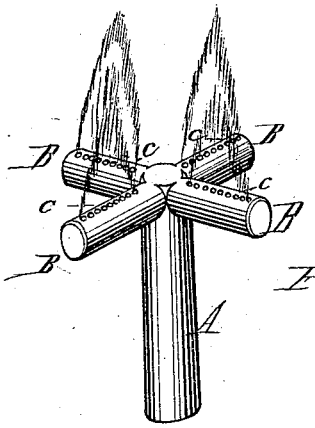

Fig. I.

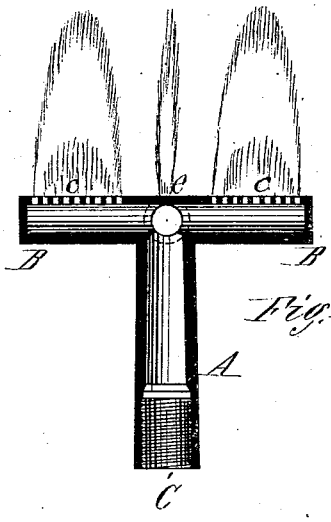

Fig. II.

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JOHN F. BARKER, OF SPRINGFIELD, MASSACHUSETTS.

IMPROVEMENT IN GAS-BURNERS.

Specification forming part of Letters Patent No. **186,920**, dated February 6, 1877; application filed November 3, 1876.

To all whom it may concern:

Be it known that I, JOHN F. BARKER, of Springfield, in the State of Massachusetts, have invented a new and useful Improvement in Gas-Burners, and that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, and to the letters of reference marked thereon.

My invention relates to that part of the burner from which the gas escapes to form the flame when ignited, its object being to produce a flame greater in volume and illuminating power than that produced by the ordinary burner-tip without the use of a glass chimney. To this end my invention consists of a column or shaft to be attached to the gas-fixture, and having at the upper part any desirable number of tubular arms radiating from said shaft as a center, and each provided with a row or series of escape-orifices or holes on the upper side, as will be more fully hereinafter described.

Figure I is a perspective view of my invention, and Fig. II is a vertical section of the same through the column or shaft.

In the drawings, A represents the column or shaft, which is threaded at the lower end at C, to be turned onto the threaded end of a gas-fixture, and having the hollow arms B at the upper part, which extend out or radiate from the said shaft as a center, and each of which has a row or series of holes, *c*, made in the upper part, the holes in each series being sufficiently near together to make one single flame when the gas escaping therefrom is ignited. A space, *e*, at the center, or between the arms and their holes *c*, is left solid, or without holes, as clearly shown in the drawing, so that each series of holes is entirely separate and distinct from any other series; and any desired number of these arms may be made upon the shaft—two or more, according to the degree of light that is desired, whether more or less.

The operation of my invention is as follows: The shaft A being secured upon the threaded fixture, the gas is admitted to the shaft and passes into the arms B and out through the holes *c*. The gas being then ignited, that which escapes from the holes in any one series unites and forms one single flame, separate and distinct from that of any other series, and, as there are no holes in the center at *e*, there is, consequently, no flame there, that blank space being especially designed to prevent the flames of the different series of holes from uniting to form one flame, and to allow the air to reach or come in direct contact with every point of each flame, to produce the proper combustion and give the best illuminating effect to each flame. As the air is thus free to reach all parts of each flame, no glass chimney is required to be used with this burner, and may be used with only the ordinary globe, and is, therefore, a matter of saving to no inconsiderable amount, especially when the frequent breakage of chimneys by cool drafts of air is considered.

I am aware that vapor-burners having an upright shaft and radial arms perforated for the escape of vapor have heretofore been made and attached to lamps for the purpose of generating and burning vapor from a fluid, and I do not claim the same, nor any part thereof, irrespective of my construction and arrangement of the parts whereby an uninterrupted flow of gas through the shaft and arms to the escape-orifices is provided for.

Having thus described my invention, what I claim as new is—

The combination of the hollow shaft A with two or more hollow radial arms, B, each provided with a series of escape-orifices, *c*, said arms being connected directly to said shaft, so that an uninterrupted flow of gas is provided for through the said shaft and arms, substantially as described.

JOHN F. BARKER.

Witnesses:
T. A. CURTIS,
G. H. BLANDEN,
D. E. FISK.