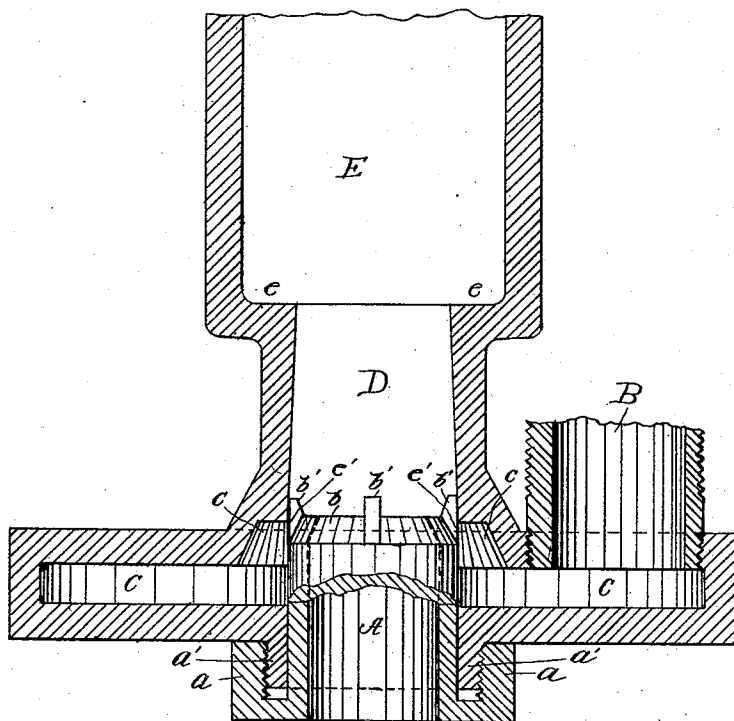


(No Model.)

A. L. AVERY.
GAS AND AIR MIXER.

No. 477,288.

Patented June 21, 1892.



Witnesses

Franklin Moore
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UNITED STATES PATENT OFFICE.

AMOS L. AVERY, OF BRADFORD, PENNSYLVANIA.

GAS AND AIR MIXER.

SPECIFICATION forming part of Letters Patent No. 477,288, dated June 21, 1892.

Application filed April 14, 1891. Serial No. 388,934. (No model.)

To all whom it may concern:

Be it known that I, AMOS L. AVERY, a citizen of the United States, residing at Bradford, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Gas and Air Mixers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to gas and air mixers.

It has for its object to provide a simple and inexpensive device that can be readily attached to any gas-furnace or elsewhere.

The invention therefore consists of constructions, combination, and arrangement of parts, all of which will be hereinafter described in the specification and pointed out in the claims.

Reference is had to the accompanying drawing, which represents a longitudinal sectional view of my device, the hollow sleeve being partly in elevation.

A represents a hollow sleeve for admitting air and controlling the flow of gas to the burner. Said sleeve is shown only partly in section, having the screw-threaded flange *a* and the beveled end *b*. Upon the periphery of said beveled end are projections *b' b' b'*, which serve to hold the sleeve central.

B is a delivery-pipe connecting the gas-reservoir (not shown in the drawing) and the gas-receiver C. The gas-receiver C extends entirely around the sleeve A and is provided with a supplementary chamber *c*, which communicates with pipe D, for the purposes hereinafter stated.

D is a pipe or receptacle into which sleeve A fits, the walls of said pipe being parallel from its base up to the highest point that the sleeve can be forced, and from this point said walls converge throughout their remaining length, so that the gas will be forced to the burner through pipe E under greater pressure.

Pipe D is smaller in diameter than pipe E, which pipe is made any length necessary to form a proper burner. These pipes may be

joined in any desired, well-known, or advantageous manner, as this forms no part of my invention. Pipe E is provided with shoulders *e e* for the purpose of retaining any solid or other matter formed by combustion and to keep the same from entering pipe D and virtually clogging the opening *e'*.

Having described the various parts of my invention, the operation of the device is as follows: The gas enters the receiver C from the reservoir under pressure and is forced from the supplementary chamber *c* through opening *e'* into pipe D, and from thence to the burner. Now the gas, being under pressure, will enter pipe D in a jet or jets and draw in after it through the hollow sleeve a certain amount of air, which it carries to the burner. To regulate the flow of gas, the sleeve A is adjusted by means of its screw-flange *a*, which fits on projection *a'*. When a long and powerful flame is desired, the entrance from the supplementary chamber *c* is opened by lowering sleeve A. On the other hand, if a small flame is wanted the opening *e'* is made smaller by raising the sleeve A.

What I claim is—

1. In a gas and air mixer, the combination of the hollow sleeve A, having the beveled end *b*, carrying projections *b'*, pipe D, the gas-supply pipe B, and the circular chamber C, having the supplemental chamber *c*, all substantially as shown and described.

2. In a gas and air mixer, the combination of the receiver C, having supplemental chamber *c*, gas-supply pipe B for conveying gas to said receiver, delivery-pipe D, having converging sides, and the adjustable hollow sleeve A, fitting within said pipe D, having the beveled end *b*, carrying the projections *b'*, and the screw-threaded flange *a*, for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

AMOS L. AVERY.

Witnesses:

J. E. FENNERTY,
GEO. DANA.