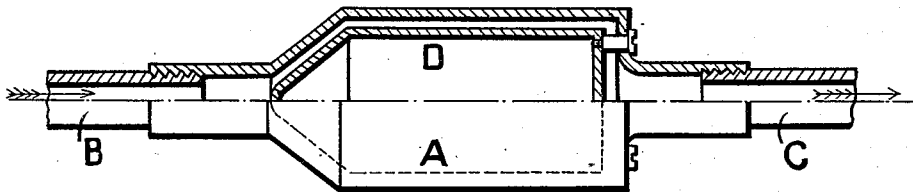


A. C. IONIDES, JR.
AIR GAS APPARATUS.
APPLICATION FILED DEC. 5, 1910.

1,011,961.

Patented Dec. 19, 1911.



Witnesses:

Eugene Wering
Hans Frank

Inventor

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by *Attorney*
his Attorney.

UNITED STATES PATENT OFFICE.

ALEXANDER CONSTANTINE IONIDES, JR., OF LONDON, ENGLAND.

AIR-GAS APPARATUS.

1,011,

Specification of Letters Patent.

Patented Dec. 19, 1911.

Application filed December 5, 1910. Serial No. 596,168.

To all whom it may concern:

Be it known that I, ALEXANDER CONSTANTINE IONIDES, JR., citizen of Great Britain, residing at 4 Porchester Terrace, London, W., England, have invented certain new and useful improvements in Air-Gas Apparatus, of which the following is a specification.

The object of my invention is to provide means for extinguishing the back flash which at any time likely to occur with all kinds of self supporting gas apparatus from a point of ignition, and which is a serious source of danger, and to carry my invention into effect I construct my improved back flash extinguisher as follows, reference being made to the accompanying drawing which is a part section and part elevation of my apparatus.

I make an elongated enlargement A which forms part of a delivery pipe B from supply, and a burner, of a greater diameter than the pipe itself and fit into this enlarged part an elongated metal drum or other suitable member having the end remote from the incoming gas cut off square, which blocks up the front of the enlargement with the exception of a space all around it, the sectional area of the space around not being less than the sectional area of the pipe, the action of this arrangement being to spread the gas out into a thin layer instead of allowing it to remain in the solid mass it would if this arrangement were not inserted, and by experiment I have found that no back flash will pass the extinguisher, the reason being that the gas being suddenly spread out in this thin layer is immediately cooled below the temperature at which self supporting gas ignition can take place and consequently any back flash is immediately extinguished the instant the

flame reaches the extinguisher. These extinguishers may be placed in any part of an air gas system where back flash is likely to take place, thus rendering any system perfectly safe in this respect.

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—

1. In a device for extinguishing the back flash in gas burning apparatus, the combination with the supply pipe having a portion intermediate its ends of greater diameter than the rest of the pipe, of an imperforate elongated baffle member in said enlargement, said baffle having a substantially flat face directed toward the burner and being of a diameter such that a space between its outer periphery and the inner periphery of the enlargement results, the sectional area of said space being not less than that of the supply pipe.

2. In a device for extinguishing the back flash in gas burning apparatus, the combination with the supply pipe having a portion thereof substantially cone shaped and of greater diameter than the rest of the pipe, of an imperforate substantially cone shaped baffle member in said enlargement the base of said member being substantially flat and directed toward the point of consumption, there being a space all about said baffle, the sectional area of which space is not less than that of the supply pipe.

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

ALEXANDER CONSTANTINE IONIDES, JR.

Witnesses:

HENRY THOMAS TALLOCK,
WALTER J. SKERTEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."