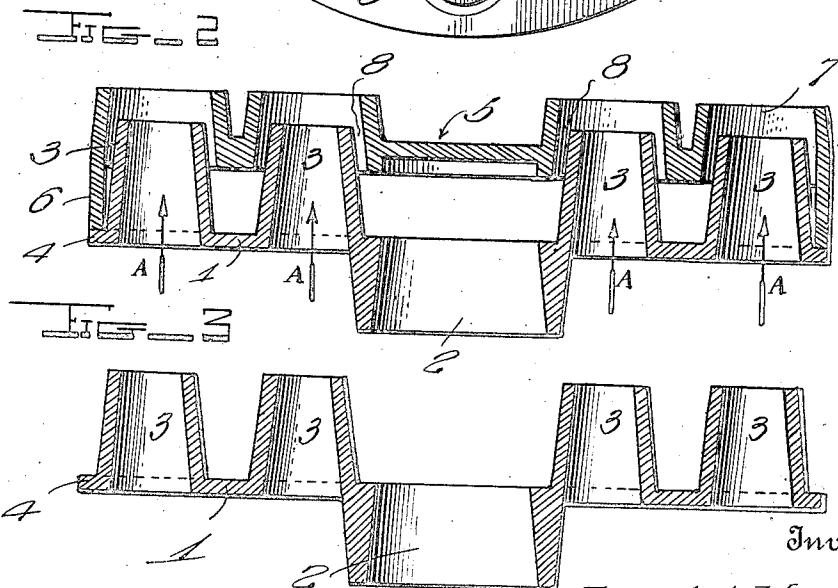
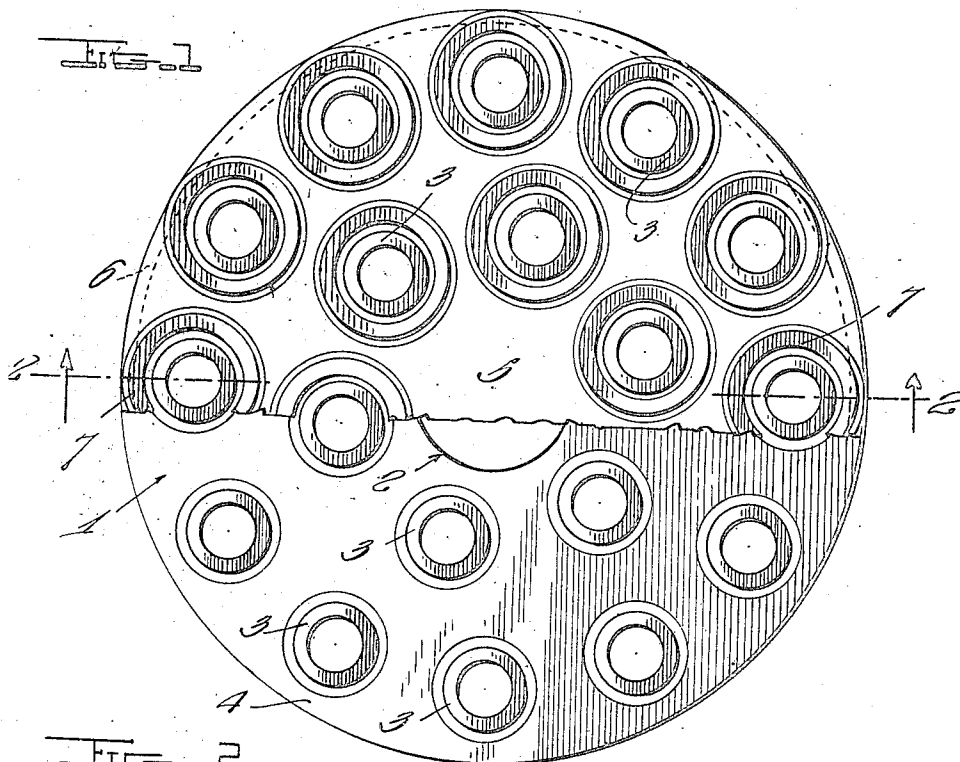


Feb. 6, 1923.

J. A. MUSTEE.
GAS BURNER.
FILED SEPT. 15, 1921.

1,444,263..



Inventor

Joseph A. Mustee

By *H. H. Wilson & Co*
Attorneys

UNITED STATES PATENT OFFICE.

JOSEPH A. MUSTEE, OF CLEVELAND, OHIO.

GAS BURNER.

Application filed September 15, 1921. Serial No. 500,772.

To all whom it may concern:

Be it known that I, JOSEPH A. MUSTEE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Gas Burners; and I do 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.

This invention relates to an improved gas burner, and it has for its principal object to generally improve upon devices of this class by the provision of one of extreme simplicity and durability, which is such in construction that it can be manufactured for an extremely low cost, due to the fact that the parts thereof are in the form of metal castings which construction obviates the necessity of especially machining or drilling of the parts.

Another object of the invention is to provide a burner which is constructed of readily disconnectible sections which can be taken apart for removing carbon and other burnt particles which become lodged inside of the same and in some instances prevent the free flow of gas.

A further object of the invention is to provide a burner which is such in construction that the already mixed gas and air has additional air mixed therewith at the point of ignition, thus insuring an exceptionally hot flame with a small consumption of gas.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same:

Figure 1 is a top plan view of the improved burner showing approximately one-half of the upper section of the same broken away to disclose the construction of the lower section more clearly.

Figure 2 is a central vertical sectional view through the burner taken substantially on the plane of the line 2-2 of Fig. 1.

Figure 3 is a sectional view taken through the lower section of the burner.

In carrying out the invention, I make use of a lower circular casting or plate 1 which is formed at its center with an annular depending air and gas inlet 2, being formed

at closely spaced points around this inlet and around the peripheral portion thereof with a plurality of upstanding upwardly tapered tubular members 3. The outer row of tubes 3 are arranged slightly inward of the periphery of the plate or casting to provide a flange 4. Removably supported on the lower casting is another casting which is generally designated by the numeral 5. This casting includes a depending annular flange 6 which rests on the aforesaid flange 4 and includes a plurality of closely spaced tube-like portions 7 which are arranged for co-action with the similar parts 3 of the lower casting. It is to be noted that the tubular portions of the upper casting are somewhat larger than the corresponding parts of the remaining casting so that when the burner is in use there is a space formed between the parts 3 and 7 to permit passage of the gas between these parts for forming substantially circular flames over the entire area of the upper side of the burner. The central portion of the upper casting is disposed directly over the fuel intake 2 and the tubular parts 3 of the lower casting are open at their opposite ends so as to permit additional air to pass upwardly through them to mingle with the already mixed air and gas which passes between these parts and the co-acting parts of the upper casting. As before pointed out, the employment of such an arrangement requires the use of less gas and at the same time insures an extremely hot flame. Before completing the detailed description, attention is directed to the fact that the arrows A designate the points where additional air is supplied to the already mixed air and gas which escapes through the passages 8 formed between the parts 3 and 7.

By carefully considering the foregoing description in connection with the drawings, persons familiar with burners of this class will doubtless be able to obtain a clear understanding of the invention. However, a brief review of the operation may well be entered at this point. To this end, the depending annular part 2 of the lower casting is connected with the supply pipe and the already mixed fuel is passed through the same and enters between the two castings and is spread about until forced outwardly between the various escape passages 8, and, as above indicated, additional air passes upwardly in the direction of the arrows A

through the tube-like part 3 on the lower casting and mingles with the already mixed fuel so as to provide an extremely effective mixture for formation of an intensely hot flames.

I claim:

A gas burner comprising a lower plate-like casting having a depending fuel inlet at its center, a plurality of tapered tube-like extensions which are open at their opposite ends to constitute air inlet passages formed on its upper face, the outermost extensions being positioned inward of the peripheral edge of the casting to provide a flange, and an upper similarly shaped casting formed

with a plurality of tapered sleeves adapted to pass over the ends of the tubular extensions, the tops of said tubular extensions lying some distance below the tops of the tapered sleeves; said upper castings being also provided with a depending annular flange adapted to rest upon the said flange of the lower castings, the bottom of the said tapered sleeves lying some distance above the base of the lower casting whereby fuel passages are provided.

In testimony whereof I have hereunto set my hand.

JOSEPH A. MUSTEE.