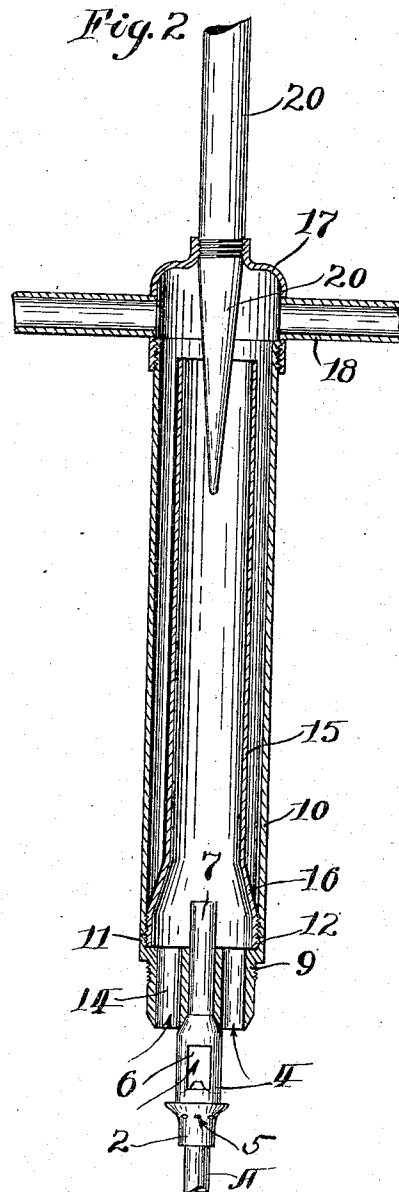
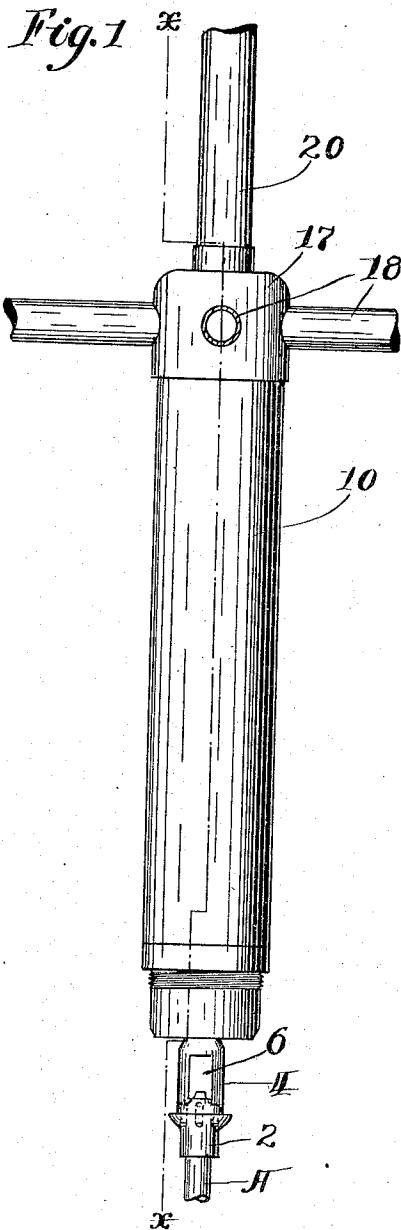


S. F. PIERCE.
GAS BURNER.
APPLICATION FILED AUG. 23, 1915.

1,189,731.

Patented July 4, 1916.
3 SHEETS—SHEET 1.



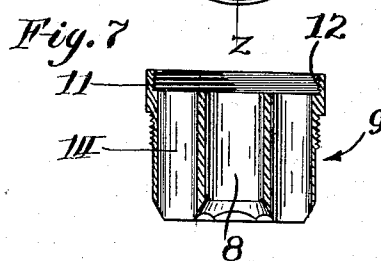
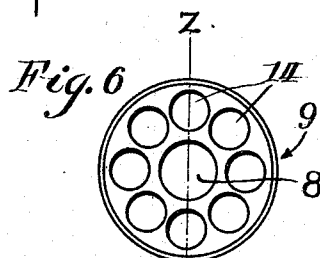
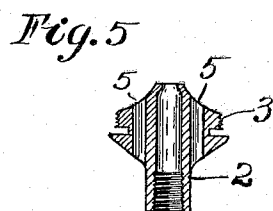
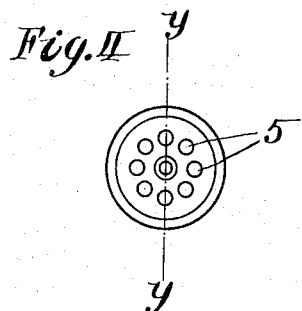
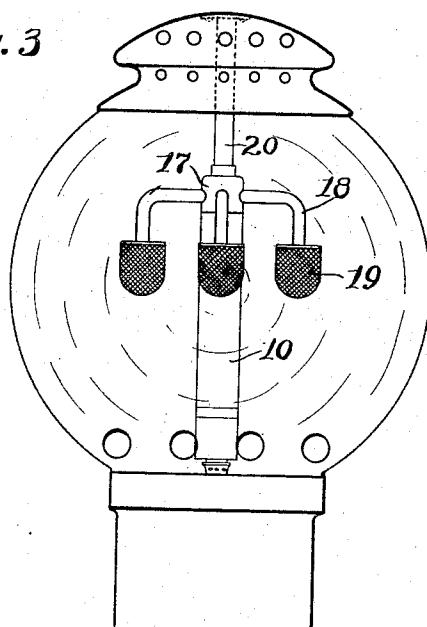
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3 SHEETS—SHEET 2.

Fig. 3

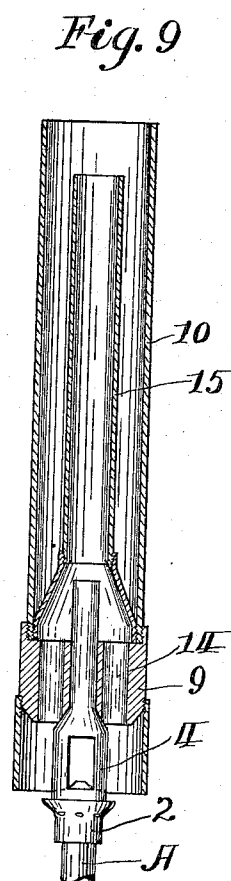
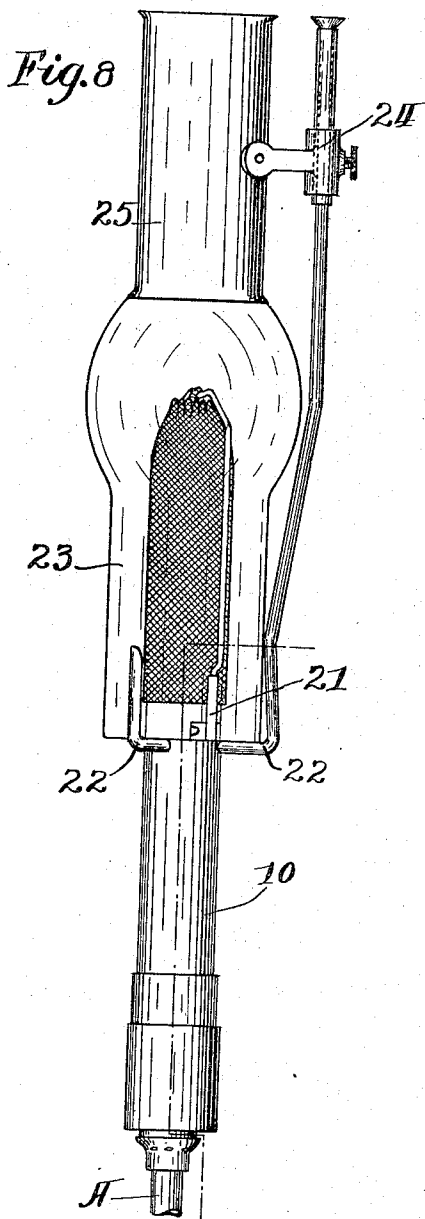


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3 SHEETS—SHEET 3.



Inventor:
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UNITED STATES PATENT OFFICE.

SIMEON F. PIERCE, OF ST. PAUL, MINNESOTA.

GAS-BURNER.

1,189,731.

Specification of Letters Patent.

Patented July 4, 1916.

Application filed August 23, 1915. Serial No. 46,830.

To all whom it may concern:

Be it known that I, SIMEON F. PIERCE, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Gas-Burners, of which the following is a specification.

My invention relates to improvements in incandescent gas burners, its object being particularly to provide means for mixing the maximum amount of air with gas and in a more thorough manner than with the ordinary construction of burner, and consists also in means for stabilizing and controlling the flow of gas to the mantle to protect the mantles from breaking in igniting, etc.

To this end my invention consists in providing features of construction whereby a compound Bunsen burner effect is secured through a particularly novel character of air inlet ports, in combination with means for bringing about the most complete mixture of the air and gas and controlling and stabilizing the gas.

My invention therefore consists in the construction, combination and arrangements of parts hereinafter described and claimed.

In the accompanying drawings showing an embodiment of the invention; Figure 1 is a side elevation of the burner portion of a lamp embodying my features of invention; Fig. 2 is a section on line *x-x* of Fig. 1 shown partly in elevation; Fig. 3 is a side elevation of the mantle portion of the lamp embodying my features of invention; Fig. 4 is a top view of an air intake device located in connection with the gas inlet tube; Fig. 5 is a section on line *y-y* of Fig. 4; Fig. 6 is a top view of a supplementary air intake device located in connection with the retort portion of the burner, Fig. 7 is a section on line *z-z* of Fig. 6. Fig. 8 is a side elevation of a modified construction; and Fig. 9 is a section on dot and dash line of Fig. 8.

Referring to the drawings, A represents a gas inlet tube supporting the plug portion 2 formed with an exterior thread 3 to allow it to be screwed into the tube 4. The plug portion 2 is formed with a plurality of openings 5 arranged in interspaced position around the central opening of the plug, said openings connecting the exterior air with the interior of the tube 4 when the plug is screwed within the tube as shown in Figs. 1 and 2. The central openings of

the plug is preferably restricted, as shown in Fig. 5. The tube 4 is formed with side inlet air openings 6 in its lower end and above the air inlet openings is formed with a contracted end 7 to slidably fit within the central opening 8 of the removable end 9 of the cylinder 10. The end 9 of the cylinder is formed with a surrounding upwardly projecting flange 11 having an inner thread 12 to screw over the threaded projecting end of the inner tube 15. The removable end 9 is formed with a plurality of openings 14 arranged around the central opening 8 in interspaced position and connecting the exterior air with the interior of the tubes.

The inner tube 15 is spaced from the outer tube 10 with its lower end 16 flared outwardly and threaded within the lower end of the outer tube 10. The upper end of the inner tube 15 stands below the corresponding end of the outer tube 10 forming an open top space between it and the outer tube 10.

Threaded over the top of the tube 10 is a dome 17 formed with outwardly projecting conduits or tubes 18 which at their outer ends depend and support the mantles 19. The dome 17 supports a central solid part 20 projected downwardly from the upper end of the central tube 15 and pointed at its downwardly projected end.

In Figs. 8 and 9 are shown my burner adapted for supporting an upright mantle instead of a depending one. In this construction the inner tube 15 is further interspaced from the outer tube than in the construction shown in Figs. 1 and 2, the solid part 20 being dispensed with and the mantle holder 21 being supported directly upon the top of the outer tube 10. In the upright form the tube 10 preferably carries arms 22 to form a support for the chimney 23. One of the arms 22 extends upwardly to form a support for the bracket 24 which slides upon the top of the supporting arm, said bracket carrying a flue 25 resting upon the top of the chimney and forming a steadying support therefor. The flue may be slid up upon the supporting arm 22 and swung away from the chimney to allow the removal of the same. There are three sets of ports 5, 6 and 14, thereby admitting air into the gas at three different points, all of said air inlet points being some distance from the mantles to allow the inlet of cold air. The mixture of air and gas passing from the tube 15 to the mantles is steadied through

the medium of the space between the inner and outer walls in coöperation with the portion 20 in the preferred form. In the form shown in Fig. 9 the extra contracting of the inner tube 15 takes the place of the portion 20.

I claim:

1. A gas burner of the class described comprising inner and outer cylindrical walls spaced apart, said walls being unconnected at the top and connected at the bottom, mantle supporting conduits connected with the upper end of the outer wall above the top of the inner wall, a head carried by the lower connected ends of said tubes and formed with a plurality of openings connecting the outer air with the interior of said tubes, a gas inlet tube fitted in the lower end of said head, the gas inlet tube being formed with side openings, and a gas supply tube leading into said gas inlet tube and formed with a plurality of openings connecting the exterior air with the interior of said gas inlet tube.

2. A gas burner of the class described com-

prising inner and outer cylindrical walls spaced apart, said walls being unconnected at the top and connected at the bottom, mantle supporting conduits connected with the upper end of the outer wall above the top of the inner wall, a head carried by the lower connected ends of said tubes and formed with a plurality of openings connecting the outer air with the interior of said tubes, a gas inlet tube fitted centrally in said head, the gas inlet tube being formed with side openings, a gas supply tube leading into said gas inlet tube and formed with a plurality of openings connecting the exterior air with the interior of said gas inlet tube, and a solid tapered spreader extending centrally downward in said inner tube and being spaced therefrom.

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

SIMEON F. PIERCE.

Witnesses:

H. S. JOHNSON,
H. SWANSON.

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