

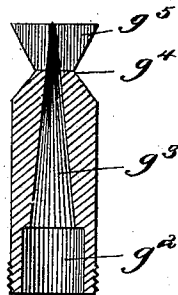
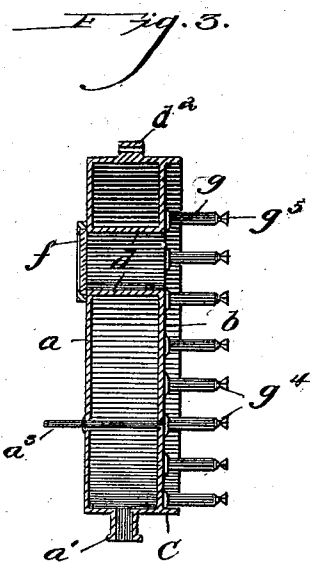
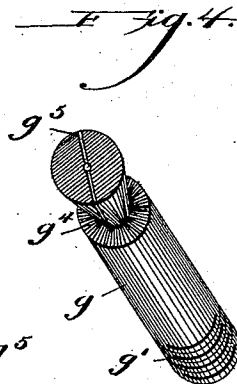
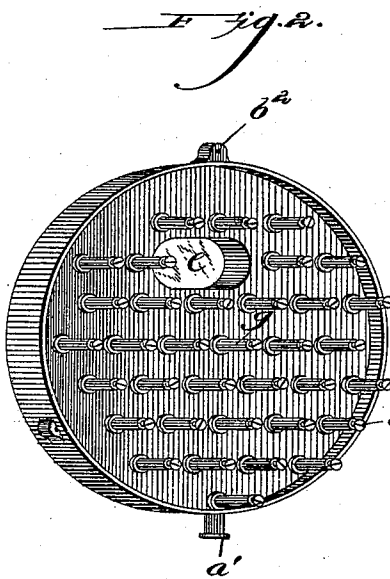
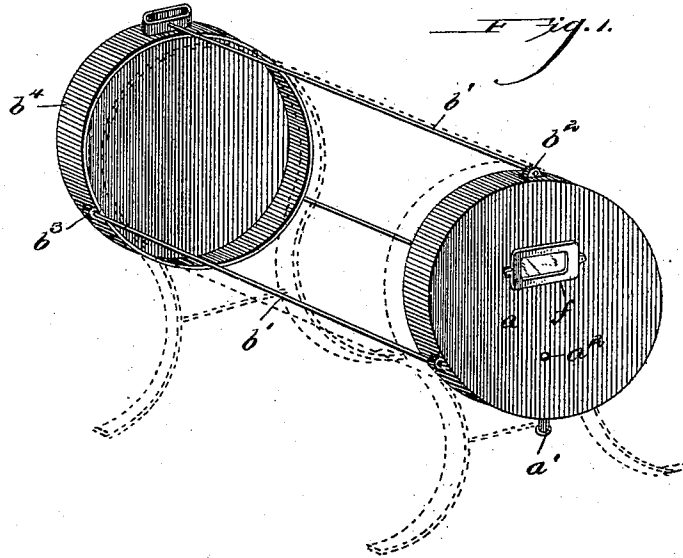
No. 619,623.

Patented Feb. 14, 1899.

R. SCHLUMBERGER.
GAS BURNER.

(Application filed Jan. 18, 1898.)

(No Model.)



WITNESSES:
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UNITED STATES PATENT OFFICE.

ROBERT SCHLUMBERGER, OF ALLEGHENY, PENNSYLVANIA.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 619,623, dated February 14, 1899.

Application filed January 18, 1898. Serial No. 667,033. (No model.)

To all whom it may concern:

Be it known that I, ROBERT SCHLUMBERGER, a citizen of the United States of America, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Gas-Burners, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in gas-burners, and has for its object to provide a burner particularly adapted for use on automatic water-heaters.

15 The principal features of my invention comprise a circular drum having an extending flange to engage over the casing surrounding the coils of the water-heater, said drum having a door for readily applying the fire to the gas and the inner plate of the drum having
20 secured thereon a series of gas-tips which are fed from the gas which passes into the chamber of the drum, these gas-tips being of a peculiar construction, whereby they serve the double purpose of tips and mixers.

25 Another feature of the invention is the novel form for binding the burner in position upon the water-heater, all of the above construction being hereinafter more specifically described, and particularly pointed out in the
30 claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like letters of reference indicate similar
35 parts throughout the several views, in which—

40 Figure 1 is a perspective view of my improved burner, showing position of same upon a horizontal water-heater. Fig. 2 is a perspective view of the burner. Fig. 3 is a vertical sectional view of the same. Fig. 4 is a perspective view of one of the tips and mixers. Fig. 5 is a longitudinal sectional view of the same.

45 The invention, as before stated, is particularly adapted for use in connection with water-heaters, and more particularly with a horizontal water-heater, and it comprises a circular drum composed of the outer plate *a*, the inner plate *b*, and the rim *c*, the latter extending some distance beyond the inner plate
50 *b*, so as to form a projecting flange which will engage over the casing of the water-coils.

At any desired position or location therein are formed the transverse walls *d*, which produce the opening *e*, by means of which the fire may
55 be passed through the burner to ignite the gas, said opening being closed by a suitable sliding or hinged door *f*. The inner plate *b* is provided with a series of screw-threaded openings to receive the screw-threaded end
60 *g*¹ of the gas tip and mixer *g*. This gas tip and mixer is provided at its screw-threaded end with a recess *g*², which communicates with a tapered aperture *g*³, extending through the remainder of the gas tip and mixer, and
65 which is tapered toward the free or outlet end of the mixer. This mixer is provided near its free end with an exterior V-shaped groove *g*⁴, and the portion of the mixer extending beyond the center of the said V-shaped groove
70 is provided with a transverse slot or cut *g*⁵, which registers with the aperture *g*³ from both sides thereof. The drum is provided at the lowermost portion of its periphery or at any other desired point with a nipple *a*¹, to which
75 the gas-supply pipe is connected, and the outer plate *a* is provided at a suitable point with an aperture *a*², through which the pipe *a*³, which feeds the pilot-light, is passed, said pipe being in connection with one of the gas-
80 tips, which serves as a pilot-light.

The burner is retained in its position on the water-heater by means of rods *b*¹, extending in alinement with the heater and which are fastened in lugs *b*², provided around
85 the rim of the burner. The opposite ends of said rods engage in like lugs *b*³, provided on the pan or drum *b*⁴, that incloses the other end of the heater and to which the flue is connected.

90 The gas being fed into the chamber of the drum from the supply-pipe, it courses through said chamber and escapes through each of the various tips, where it is ignited by the pilot-light. As the gas passes through these
95 tips and reaches the inner edge of the transverse slot or cut *g*⁵ it becomes mixed with the air, so that by the time it reaches the point of ignition a perfect combustion of the same is attained.

100 The burner is adapted to have a sufficient number of tips and mixers so as to provide sufficient flame for enveloping the entire amount of pipe-coils arranged in the heater,

and these coils being arranged in a horizontal position the gas is brought into more direct contact with the entire surface of the same and a quicker heating of the water is attained.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A gas-burner for water-heaters and the like consisting of a drum provided with an outer and an inner plate, a rim connecting said plates, said rim projecting beyond the inner plate to receive the casing of the water-coils, walls d secured to said inner and outer plate and forming an opening, suitable closing means for said opening, a series of gas tips and mixers secured in the inner wall, each of said tips being provided with a tapering opening and with an external V-shaped groove g^4 , each of said tips being further provided with a transverse slot g^5 which registers with the tapering opening and serves to admit the air to the gas previous to reaching the point of ignition, substantially as shown and described.

2. A gas-burner comprising a gas-chamber with which the gas-supply pipe communicates, and a series of gas-tips communicating with

said chamber and each provided with a central orifice which is tapered toward the outer end of the gas-tip, each of said gas-tips being further provided at their outer end with a transverse slot which registers with the central orifice of the gas-tip, and admits the air into contact with the gas previous to the arrival of the gas at the point of ignition, substantially as shown and described.

3. In a gas-burner for the purpose described, the combination of the circular plates and rim forming the gas-chamber with which the gas-supply communicates, a series of gas-tips secured in the inner plate and communicating with the said gas-chamber, a pilot-light connection with one of said gas-tips, each of said gas-tips provided with a central orifice and at their outer end with a transverse slot communicating with said orifice, and means for binding the burner in position upon a water-heater, substantially as shown and described.

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

ROBERT SCHLUMBERGER.

Witnesses:

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GEO. B. PARKER.