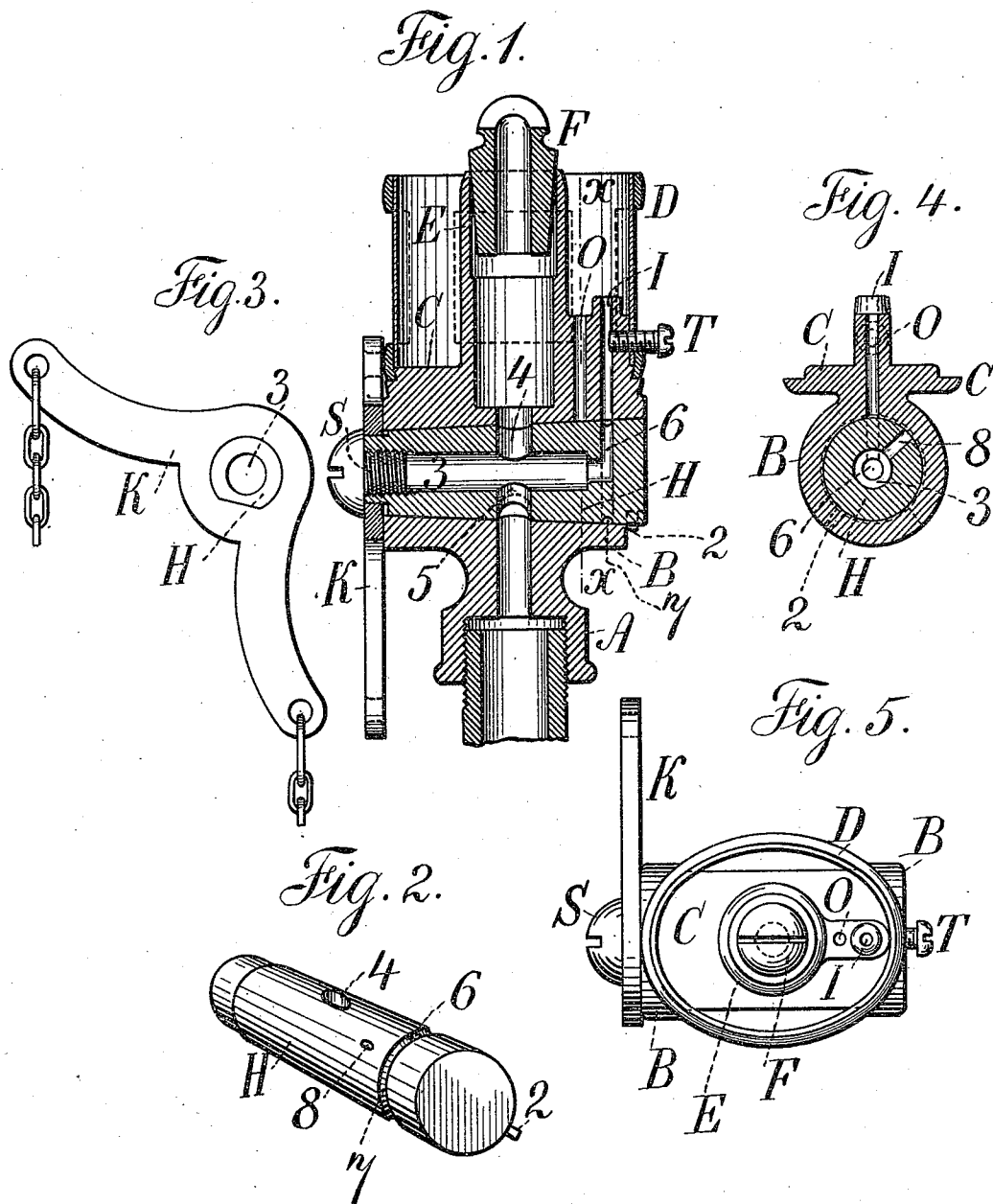


(No Model.)

F. J. LEIBMAN.
GAS BURNER.

No. 501,283.

Patented July 11, 1893.



Witnesses:
J. Stail
Char. H. Smith

Inventor:
Frank J. Leibman
per Lemuel W. Perrell
Atty.

UNITED STATES PATENT OFFICE.

FRANK J. LEIBMAN, OF NEW YORK, N. Y., ASSIGNOR TO E. P. REICHELME & CO., OF SAME PLACE.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 501,283, dated July 11, 1893.

Application filed December 19, 1892. Serial No. 455,586. (No model.)

To all whom it may concern:

Be it known that I, FRANK J. LEIBMAN, a citizen of the United States, residing at the city and State of New York, have invented an
5 Improvement in Gas-Burners, of which the following is a specification.

Gas burners have heretofore been made in which there is a main burner and an auxiliary or igniting burner located in such a position that when the main flame is turned out the igniting burner will either be lighted or remain lighted for igniting the main flame when the gas is turned on, but the igniting tube being close to the burner tube causes a deposit
10 of soot on the latter and produces a flicker and unsteadiness in the flame. In my present invention the igniting flame is located at a sufficient distance below the main flame to prevent the heat of the igniting flame producing a flickering of the main flame and sufficiently far from the burner tube to prevent a deposit of soot thereon, and there is an intermediate flash jet that is momentarily brought into action as the supply cock is
15 turned, so as to convey the flame from the igniting jet to the main jet, or the reverse, and this flash jet is turned off or extinguished when the main flame is ignited and also when it is extinguished and the igniting jet only
20 remains burning.

In the drawings, Figure 1 is a vertical section of the improved gas burner, and Fig. 2 is a perspective view of the plug of the cock. Fig. 3 is an elevation of the lever and the end
25 of the plug. Fig. 4 is a section of the cock at the line $x-x$, and Fig. 5 is a plan view of the burner.

The burner is composed of the coupling A to be secured upon any ordinary gas pipe, and adjacent to and preferably formed with the coupling A is the barrel B of the cock, and above this is the base piece C for the reception of the lower end of the shield D, which shield is preferably of sheet metal with openings in it and mica forming windows at the openings, and this shield preferably extends up to near the base of the burner tip F, which burner tip is upon the burner tube E, and at I is the igniting jet tube, and adjacent to the
30 same and contiguous to the burner tube E is

the flash jet tube O. The coupling A, barrel B, base C and burner tube E are preferably all of one casting so as to lessen expense, avoid leaks and to provide for integral jet tubes. The plug H of the cock is tapering
35 and provided with a stop 2 to limit the motion as usual, and the lever K is preferably applied at the smaller end of the plug H and it is provided with a flat sided hole to set upon and turn the plug and it takes the place of a washer and it is adapted to be either grasped and turned by the fingers or to receive knobs, chains or rods hanging down by which either one end or the other of the lever may be pulled down to open or close the cock. The plug is
40 tubular having a central passage 3 that is closed by the clamp screw S, and there is a lateral opening 4 to the burner tube E and an opening 5 for the supply of gas, which opening 5 is sufficiently wide or provided with a lateral extension, so that the rotation of the plug does not close the inlet of the gas to the central passage 3, and at 6 is a small opening passing to a groove 7 around the plug and in line with the igniting jet tube I, so that the
45 gas passing from the central passage 3 through the opening 6 into the groove 7 will always reach the igniting or jet tube I for a constant flame to burn thereat, and in the plug H is a hole 8 located in line with the flash jet tube O and in such a position that said hole 8 coincides with the flash jet tube just before the opening 4 coincides with the burner tube E, so that in turning the plug for lighting the gas, a jet of gas is allowed to pass through
50 the hole 8 and jet tube O, so that such gas is ignited and the volume of it is sufficient to form a flash of flame between the igniting flame at the jet tube I and the gas that passes out from the burner tip F, thus insuring the proper ignition of the gas from the main burner when the plug is turned in one direction for that purpose. When the plug is turned in the opposite direction a jet of gas may pass through the hole 8 and tube O and reach the main flame before the latter is entirely extinguished, and thereby the gas from such flash tube O will be ignited and convey the flame back to the gas at the igniting jet tube I should such gas have become extin-
55 60 65 70 75 80 85 90 95 100

guished accidentally or otherwise at the jet tube, thus maintaining a small flame in the proper position for igniting the main flame when the gas is turned on. The shield D that
 5 surrounds the base C is permanently connected therewith by the lower edge being pressed into the inclined shoulder around the base, and the screw T also aids in holding this frame in place, said screw T also acting as a regu-
 10 lator of the gas passing to the igniting flame.

This burner is very simple in its construction and having only two principal parts there is no risk of an inexperienced person getting the same out of order and there is no waste
 15 of gas in consequence of a large igniting flame, and a positive ignition is effected by the flash jet.

I claim as my invention—

1. The combination with the gas supply
 20 pipe and the main burner, of a cock having a hollow plug and openings for turning on the gas to the main burner, an igniting jet tube and a flash jet tube, between the igniting jet tube and the main burner there being an
 25 opening in the plug of the cock for passing the gas to the igniting jet tube and also an opening for passing gas to the flash jet tube while the gas is being turned on and for shutting off the gas from such flash jet tube when

the burner is lighted, substantially as set forth. 30

2. The combination with the main burner, the burner tube, the base surrounding the same and the barrel of the cock, of an igniting jet tube, a flash jet tube between the igniting jet tube and the base of the burner tube, a hollow plug for the cock into which the gas is allowed to pass continuously, there being an opening for the passage of gas to the igniting jet tube, and also a hole for supplying gas to the flash jet tube and cutting off the same after the main gas jet has been ignited, substantially as set forth. 35 40

3. The combination with the barrel and burner tube and the igniting and flash tubes, 45 of a hollow conical plug and gas passages and a lever fitted to the smaller end of the plug and by which the gas is turned on and off, and a screw passing into the hollow of the plug and clamping said lever to the plug, substantially as set forth. 50

Signed by me this 16th day of December, 1892.

FRANK J. LEIBMAN.

Witnesses:

GEO. T. PINCKNEY,
 A. M. OLIVER.