

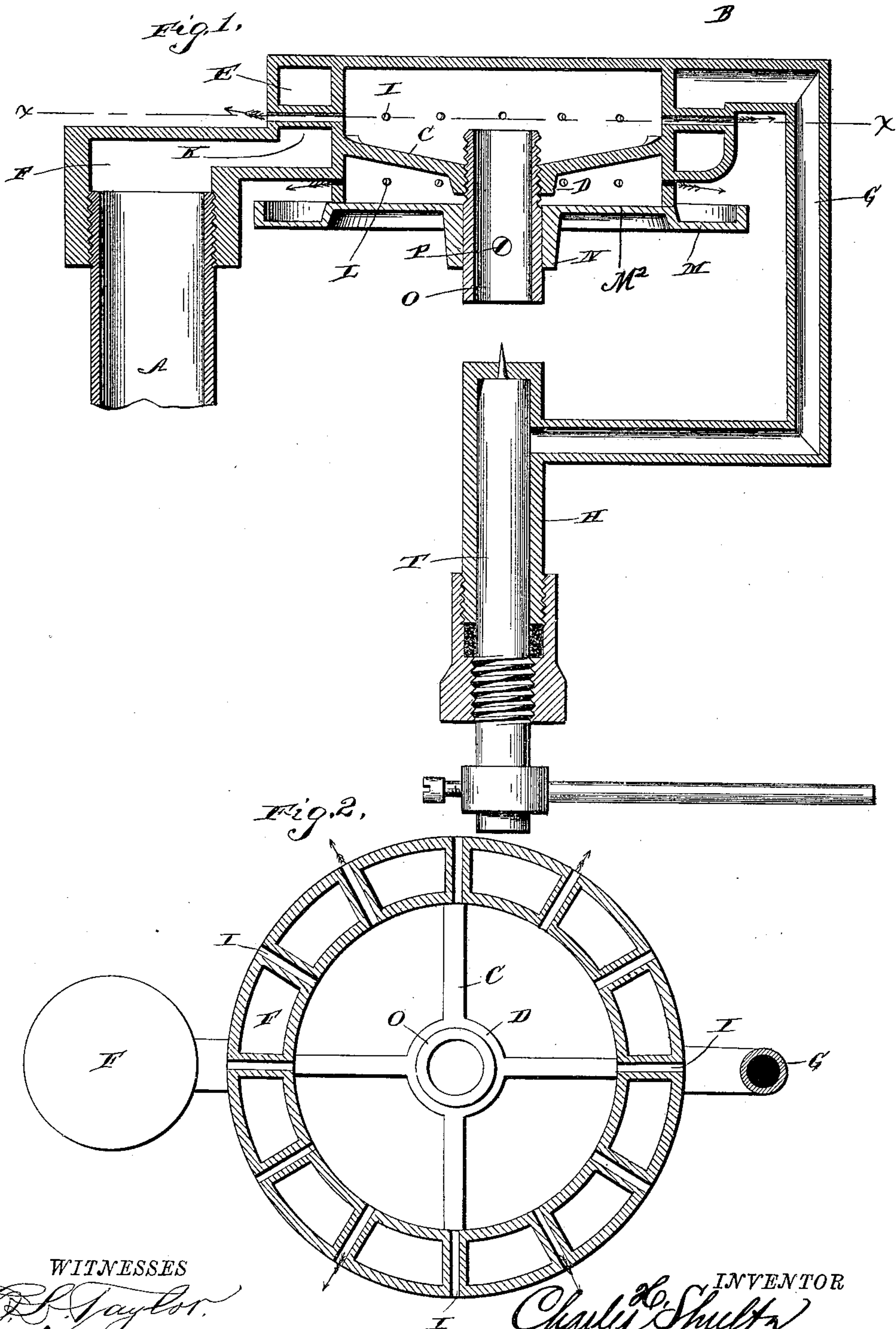
(No Model.)

C. H. SHULTZ.

VAPOR BURNER FOR GAS STOVES.

No. 377,407.

Patented Feb. 7, 1888.



WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES H. SHULTZ, OF ST. JOSEPH, MISSOURI.

VAPOR-BURNER FOR GAS-STOVES.

SPECIFICATION forming part of Letters Patent No. 377,407, dated February 7, 1888.

Application filed May 16, 1887. Serial No. 238,347. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. SHULTZ, a citizen of the United States, residing at St. Joseph, in the county of Buchanan and State of Missouri, have invented a new and useful Improvement in Vapor-Burners for Gas-Stoves, of which the following is a specification.

My invention relates to an improvement in vapor-burners; and it consists in the peculiar construction and combination of devices, as will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a vertical central sectional view of a vapor-burner embodying my improvements. Fig. 2 is a horizontal sectional view of the same, taken on the line *x x* of Fig. 1.

A represents a stand-pipe, and B represents a hollow cylindrical burner-head, which has its lower side open, and is provided with a series of downwardly-inclined converging radial arms, C, which arms terminate in an annular collar, D. Formed integrally with the burner-head, on the outer side thereof, is an annular surrounding vaporizing-chamber, E, one side of which is provided with a cap, F, that is screwed to the upper end of the stand-pipe, and from the opposite side of the annular vaporizing-chamber E projects a downwardly-extending vapor-pipe, G, which is provided at its lower inner end with a vertical sleeve, H, the said sleeve being arranged in line with the vertical center of the burner-head.

I represents a series of openings which are made transversely through the inner wall of the burner-head, and the said openings communicate with radial tubes K, which extend outward from the burner-head and through the outer wall of the vaporizing-chamber E and communicate with the outer air.

L represents a series of openings, which are made through the wall of the burner-head at a point below the annular vaporizing-chamber E.

M² represents a circular plate, the function of which is to close the bottom of the burner-chamber, the outer portion of the plate being depressed to form an oil-cup, M. The said plate M² is provided with a central opening, N, and through the said opening extends a short vertical pipe, O, which constitutes a commingling-chamber. The upper end of the

said pipe is provided with screw-threads adapted to engage similar threads in the inner side of the collar D. By turning the pipe O it will be readily understood that its upper end may be moved either upward or downward in the burner-head, and thereby cause the air to be admitted thereto at any desired vertical point, and thus regulate the supply of air to the burner in such a manner as to at all times insure complete combustion of the vapor.

By reference to Fig. 1 it will be seen that the pipe or commingling-chamber O serves to attach the oil-cup to the lower side of the burner-head. The said pipe is adapted to slide vertically in the central opening of the oil-cup, and is secured to the oil-cup at any vertical adjustment therein by means of a set-screw, P.

The operation of my invention is as follows: The oil from the reservoir (not shown) passes upward through the stand-pipe A and cap F into the annular vaporizing-chamber E, which surrounds the burner-head. The flames which jet out through the radial tubes K, which project from the burner-head, heat the outer side of the vaporizing-chamber E, as will be readily understood, and the flames which jet out from the opening L, arranged below the vaporizing-chamber E, serve to heat the lower side of the said vaporizing-chamber, and thereby the latter is heated to a very intense degree and causes the oil fed thereto to become vaporized instantly. The vapor passes downward through the pipe G to the sleeve H and upward from the same through the aperture R, and rises upward through the tube or chamber O. As the lower end of the latter communicates with the outer air, air is drawn upward into the burner-head B through the said tube with the vapor, and is caused to commingle therewith, thus oxygenizing the vapor and thereby enabling it to burn.

Particular claim is laid on the location of the tubes K, which pass through the annular oil-chamber, bringing the heat directly in contact with the oil. It will also be seen that the oil-cup closes the open lower end of the burner when adjusted in position.

Having thus described my invention, I claim—

1. The burner-head having the vaporizing-chamber E surrounding the same, the series of

tubes K extending outward from the burner-head through the chamber E, the said burner-head having openings L in the sides, which are arranged below the bottom of the chamber E, for the purpose set forth, substantially as described.

2. In a vapor-burner, the combination of the burner-head having the annular oil-chamber E surrounding the same, the tubes K extending outward from the burner-head through the chamber E, and the said burner-head having openings L in its side wall below the bottom of the chamber E, with the commingling tube or chamber O, secured to and depending from the burner-head, and the oil-cup secured to the tube or chamber O, substantially as described.

3. In a vapor-burner, the burner-head having the oil-chamber E around the same, and the series of tubes K extending from the interior of the burner through the oil-chamber, as set forth.

4. The burner-head having an open bottom, combined with the tube or commingling-chamber O, connected to the burner-head, and the plate M², connected to the tube and closing the

bottom of the burner-head, the said plate M² being formed to provide an oil-cup, M, as set forth.

5. The burner-head having the arms C on the interior, terminating in an annular collar, D, said burner-head having an open bottom, combined with the tube or commingling-chamber O, to screw into the collar D, and the plate M², carried by the tube O and closing the open bottom of the burner-head, the said plate M² having an oil-cup, M, formed on its outer edge, as set forth.

6. In a vapor-burner, the burner-head having an open bottom, combined with the plate M², separate from the burner-head and entirely closing the bottom of the same, the outer edge of the plate M² being formed with an oil-cup, M, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

CHARLES H. SHULTZ.

Witnesses:

E. G. SIGGERS,
MYRTLE STALNAKER.