

No. 746,808.

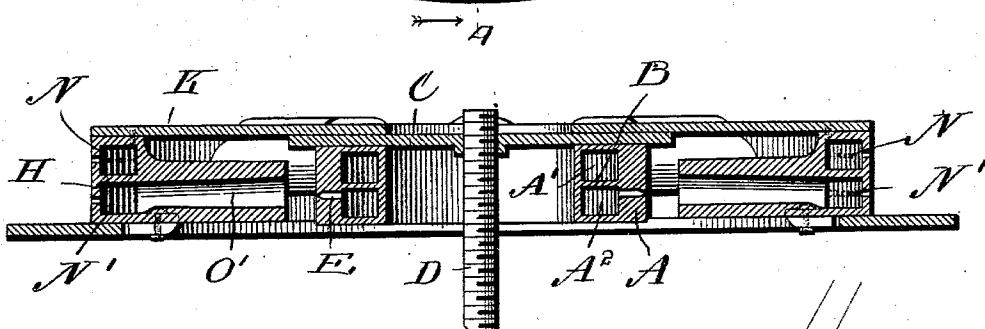
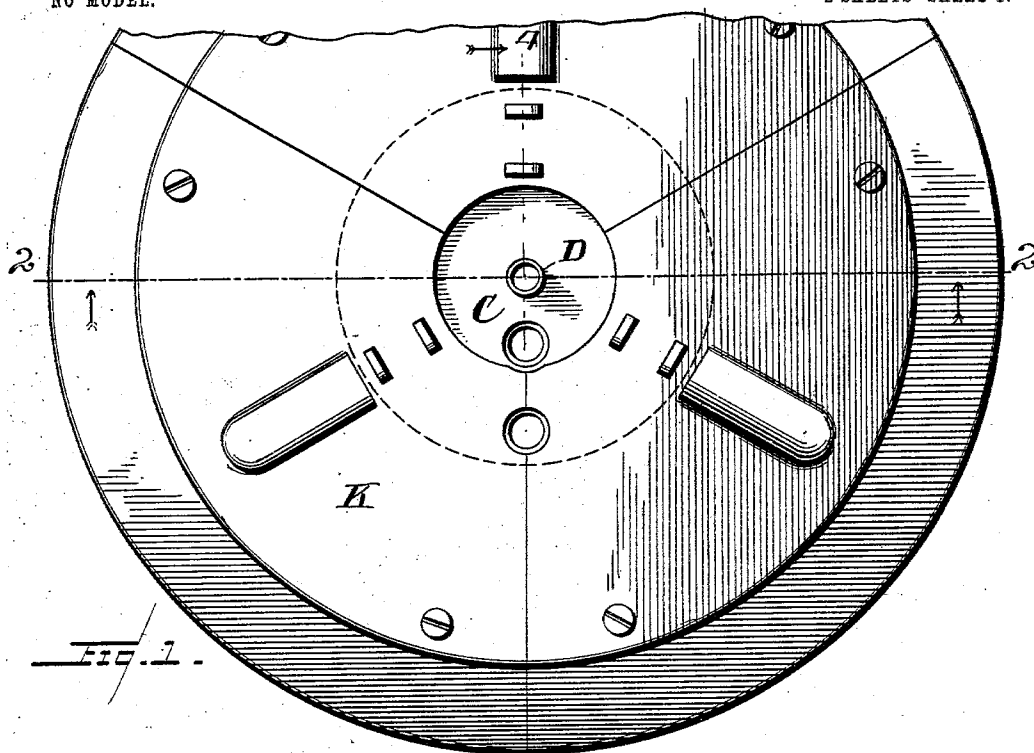
PATENTED DEC. 15, 1903.

H. P. FISH.
VAPOR BURNER.

APPLICATION FILED AUG. 8, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

W. F. Doyle
A. S. Plough

INVENTOR

Harry P. Fish
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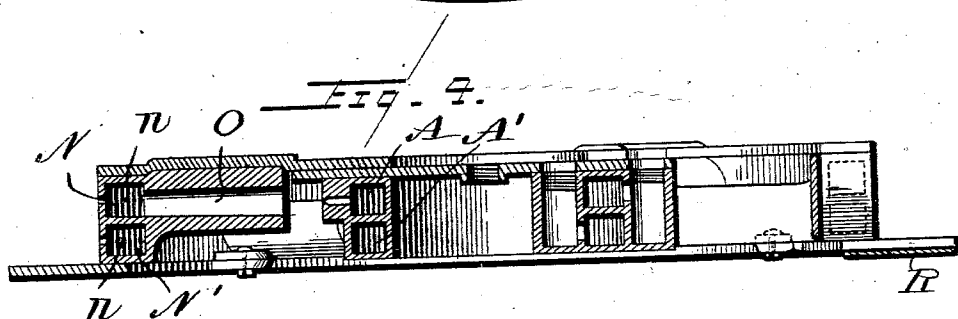
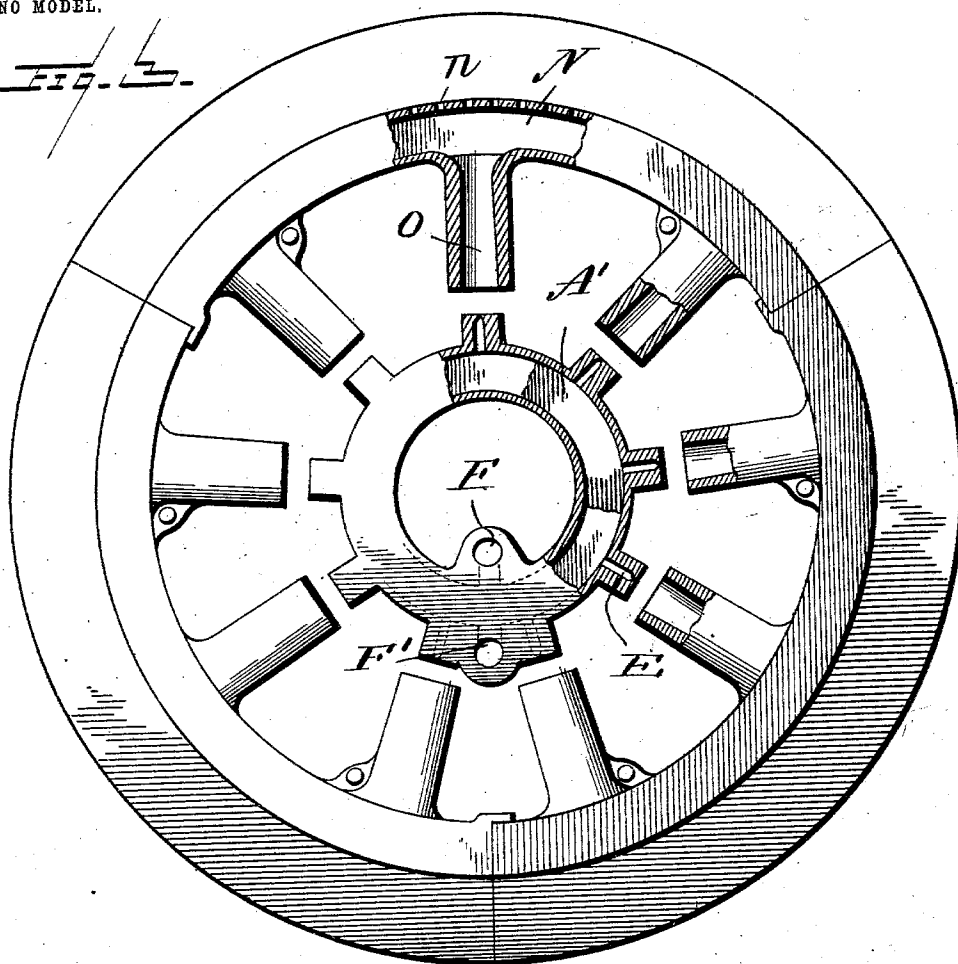
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2 SHEETS—SHEET 2.

NO MODEL.

Fig. 1.



WITNESSES

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UNITED STATES PATENT OFFICE.

HARRY P. FISH, OF YOUNGSTOWN, OHIO.

VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 746,808, dated December 15, 1903.

Application filed August 8, 1903. Serial No. 168,810. (No model.)

To all whom it may concern:

Be it known that I, HARRY P. FISH, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Gas-Vapor 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in gas-burners, and comprises a novel apparatus adapted to be placed inside of heating-boxes of furnaces, stoves, &c., and so arranged that the fuel will become thoroughly atomized before being ignited, and in the provision of means for introducing air, whereby a thorough combustion of the fuel is effected.

More specifically, the invention comprises a heater made of one or more sections and so arranged that a greater or less heating-surface may be employed, according to the intensity of the heating desired, and comprises a central receptacle into which the fuel is introduced and in which it becomes thoroughly heated before passing out through jets, where it becomes thoroughly mixed with air before passing to the chamber where the gas is ignited.

My invention consists, further, in various details of construction and in combinations and arrangements of parts, which will be hereinafter fully described and then specifically defined in the appended claims.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of my improved heater. Fig. 2 is a sectional view taken on line 2 2 of Fig. 1. Fig. 3 is a sectional view through the heater, parts being shown in top plan view. Fig. 4 is a sectional view through the transverse section of the heater.

Reference now being had to the details of drawings by letter, A designates a circular-compartment receptacle, which in the present instance is shown as having two circular chambers A' and A², separated by a partition

B, and C designates a plate which may be integral with said receptacle A or secured thereto, and said plate C is centrally apertured to receive the threaded screw D, which is mounted upon any suitable supporting-pipes or other means, as shown in Fig. 2 of the drawings. Radially-disposed nozzles E lead from said circular chambers A' and A², and leading to the two compartments A' and A² are fuel-feeding pipes F' and F², one of which leads to one of said compartments and the other to the second compartment. Secured to the plate C is a circular plate K, with a central opening, and the two plates C and K are to be fastened together in any suitable manner, and a burner H, of circular form, is secured to the plate K and has a plurality of chambers N and N', into which lead the radial ducts O and O', the former, O', leading into the lower compartment N', and the upper ducts O lead to the compartment N. The circumferential wall of each compartment has a series of perforations n, through which the gas makes exit and burns about the circumferences of said compartments. Upon reference to Fig. 3 of the drawings it will be observed that a slight space intervenes between the nozzle ends E and the open ends of the ports O and O' sufficient to allow the gas which makes exit from the nozzle to force a quantity of air into the ducts and becomes thoroughly mixed with the oil prior to igniting the same about the circumferences of the compartments.

In the drawings I have shown my heater as made up of three sections, each being separable from the other, whereby if it is desired to produce a small amount of heat one of the sections may be utilized or all if a larger quantity of heat is desired.

Secured to the under surface of the burner or integral therewith, if desired, is a shelf R, which serves to deflect the flame, thus causing it to ignite.

In setting up my heater it is my purpose to insert it through the door of the furnace or stove and mount the same upon a suitable standard, and as the gas becomes sufficiently heated it will be caused to be forced out through the nozzles and sprayed into the burner, where it becomes thoroughly commingled with the inrushing air, thus affording

a sufficient amount of oxygen to produce a nearly complete combustion.

While I have shown a particular construction of heater illustrating the invention, it will be understood that I may make variations in the construction of the apparatus without departing from the spirit of the invention.

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

1. A heater for furnaces, stoves, &c., comprising a central-compartment generator provided with superposed chambers each with a radially-disposed nozzle leading therefrom, feeding-pipes leading to said chambers, a surrounding burner having a plurality of superposed compartments the outer circumferential walls of which are perforated, a series of radially-disposed ducts in alinement with said nozzles and spaced apart therefrom, plates to which said generator and burner are

secured, and means for supporting the heater, as set forth.

2. A heater for furnaces, stoves, &c., comprising a central-compartment generator having radial lugs about the circumference thereof, provided with spraying-ducts, a compartment-burner made up of sections which are fastened together, the circumference of said burner being perforated, a plate secured to said generator provided with a threaded aperture, a threaded standard engaging said aperture, and a second plate connecting the burner with the standard-supporting plate and a circumferential flange about the lower edge of the burner, as set forth.

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

HARRY P. FISH.

Witnesses:

ADAH DAVIS,
ROBERT DENHAM.