No. 665,516. Patented Jan. 8, 1901.

H. F. & B. E. FORNEY.

OIL BURNER.

(No Model.) (Application filed Apr. 12, 1900.)

Fig. 1.

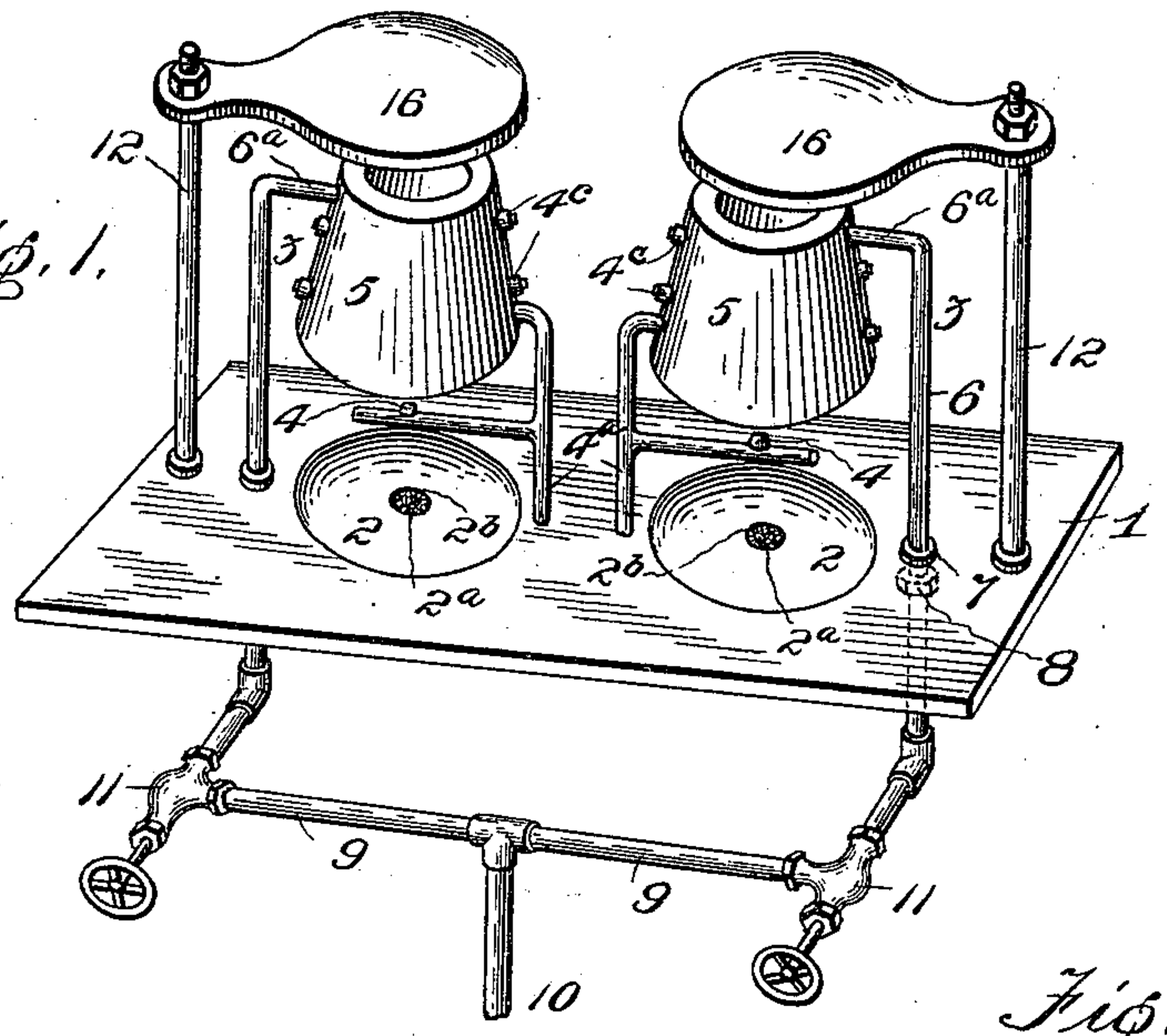


Fig. 2.

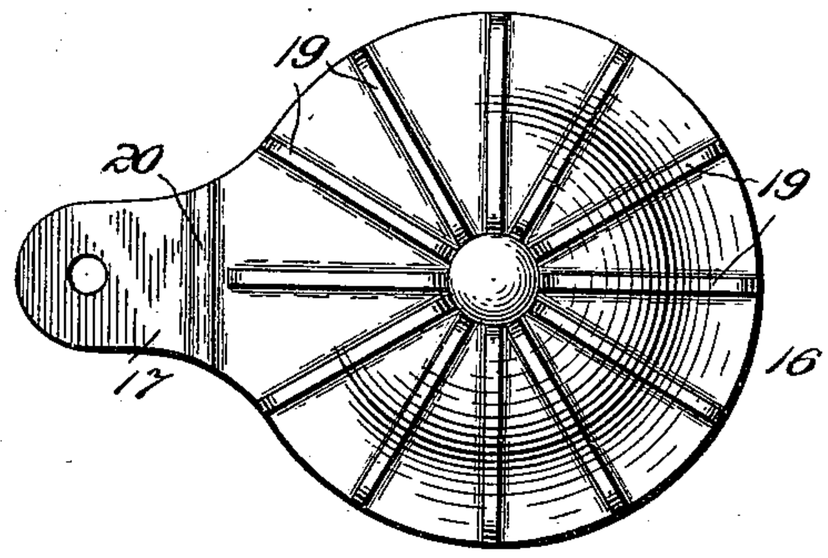


Fig. 3.

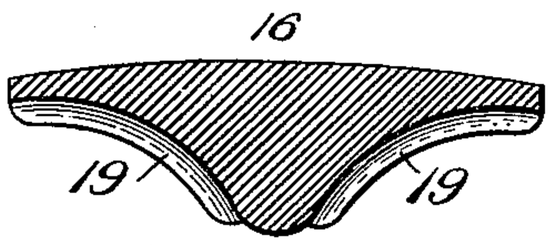


Fig. 4.

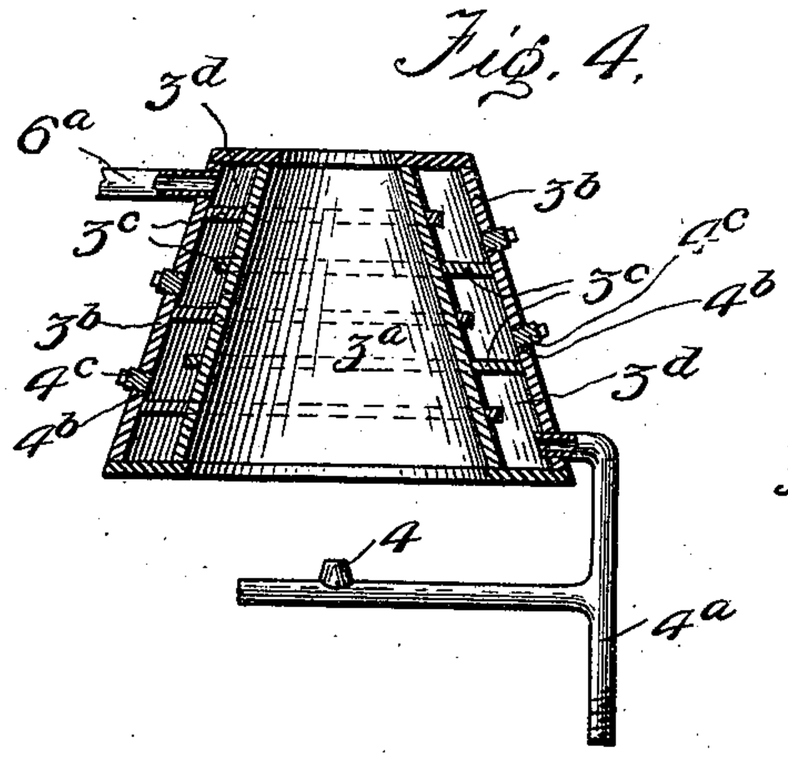
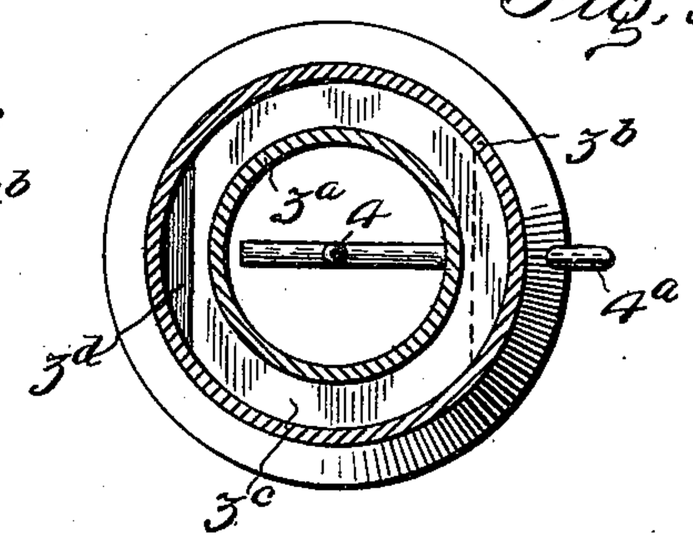


Fig. 5



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UNITED STATES PATENT OFFICE.

HARRY F. FORNEY AND BLAIR E. FORNEY, OF ALTOONA, PENNSYLVANIA.

OIL-BURNER.

SPECIFICATION forming part of Letters Patent No. 665,516, dated January 8, 1901.

Application filed April 12, 1900. Serial No. 12,554. (No model.)

To all whom it may concern:

Be it known that we, HARRY F. FORNEY and BLAIR E. FORNEY, citizens of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Oil-Burners; and we 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.

The invention relates to oil-burners, and more particularly to that class of burners designed to be placed within the fire-boxes of cooking or heating stoves, although not specifically limited to that class of stoves or the manner of attaching it thereto.

The object of the invention is to provide an oil-burner which shall be simple of construction, durable in use, comparatively inexpensive of production, and so constructed that the parts subjected to the most wear and tear may be easily and quickly removed and replaced by new parts.

With this object in view the invention consists in certain features of construction and combination of parts, which will be hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a perspective view of our improved oil-burner. Fig. 2 is a bottom plan view of one of the deflector-plates. Fig. 3 is a vertical sectional view through the same. Fig. 4 is a vertical sectional view through the vaporizing-chamber, and Fig. 5 is a transverse sectional view through the vaporizing-chamber.

1 denotes a supporting-plate which, if desired, may be mounted upon legs to serve as the top of a stove, but which in the present instance is designed to be placed within the fire-box of an ordinary cooking or heating stove. The supporting-plate is provided with drip-basins 2, which are preferably formed by concaving the plate. An asbestos packing or wick 2^a is placed in a recess or aperture 2^b at the lowermost point in the basin.

3 denotes oil-burners, each of which has a jet-orifice 4 and is connected to a vaporizing-chamber 5, which communicates with a vertical pipe 6, which projects upward through the plate 1. This pipe 6 may be provided with a fixed shoulder 7, resting upon the top of the plate, and with a nut 8 for clamping said shoulder to the plate. The lower ends of these pipes 6 are connected to branches 9 of a main supply-pipe 10, and the lower ends of said pipes 6 are provided with needle-valves 11 at their point of intersection with the branches 9, which regulate the flow of oil through said pipes. The oil may be fed through said pipes either by gravity or air-compression.

The vaporizing-chamber 5, above referred to, preferably consists of a hollow tapering body portion which is formed of concentric shells 3^a 3^b, joined together at their upper and lower ends. Arranged between these shells are partitions 3^c, which are alternately connected at opposite points within the space formed by the shells 3^a 3^b, thus producing a tortuous or serpentine passage 3^d. The oil-supply pipe 6 is connected to the upper end of the vaporizing-chamber by a branch pipe 6^a, while the burner is, as above described, connected to the lower end of the chamber and, if desired, may be provided with a foot or extension 4^a to additionally support the chamber above the plate 1.

Holes 4^b are formed in the sides of the chamber and are closed by screw-plugs 4^c, which when removed from said holes permit of the cleaning of the tortuous passage formed by the partitions.

When oil is supplied to the basin and ignited, the oil within the vaporizer becomes heated and vaporizes and passes out through the burner in the form of vapor. The vaporizing-chamber being arranged directly over the burner and tapering from its base inwardly to its upper end concentrates the heat and directs it against the stove-plates of the stove.

If it be desired to spread or diffuse the heat, we provide a deflector 16, which has a radial ear 17, pivoted to the upper end of a post 12, which is secured to the plate 1, one at each end thereof. Each of these deflectors has a conical lower side formed with radial ribs 19 to deflect the heat from the upper end of the vaporizing-chamber radially in all directions. Each deflector is also provided with a tangential rib 20, which will prevent the heat radiating against the post and injuring the pivotal connection of the deflector with said post.

In operation the valves are turned on and

the oil will pass through the jet 4 and flow into the basin and be absorbed by the asbestos wick or packing therein. The wick is now ignited, we will say, and the flame from the wick rising and heating the oil within the vaporizing-chamber will vaporize said oil, which will then continue to escape through the jet-orifice in the form of a vapor.

From the foregoing description, taken in connection with the accompanying drawings, the construction, operation, and advantages of our improved oil-burner will be readily apparent without requiring an extended explanation. It will be seen that the device is simple of construction, that said construction permits of its manufacture at small cost, and that it is exceedingly well adapted for the purpose for which it is designed.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of a supporting-plate, a burner-tube secured to said plate and provided with a jet-orifice, an oil-supply pipe secured to said plate, a hollow vaporizing-chamber supported above said plate by the burner-tube and the oil-supply pipe and consisting of two concentric shells spaced apart to form a compartment which communicates with said burner-tube, and partitions arranged within the oil-compartments to form a zigzag or serpentine passage, said oil-supply pipe communicating with said vaporizing-chamber and adapted to distribute the oil upon the upper partition from whence it works down upon the succeeding partitions and flows in the form of a vapor into the burner-tube, substantially as set forth.

2. In an oil-burner, the combination with a burner-tube and a tapering vaporizing-chamber communicating therewith and located above a jet-orifice in the burner-tube, of a pivoted plate or deflector mounted above the generator-chamber, the lower side of said deflector-plate being formed in the shape of an inverted cone and provided with radial ribs which extend from the base to the apex of the cone, and with a tangential rib, substantially as set forth.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

HARRY F. FORNEY.
BLAIR E. FORNEY.

Witnesses:
J. B. FORNEY,
H. B. HUFF.