H. F. BAKER.

OIL BURNER.

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1,069,098. Patented Aug. 5, 1913.

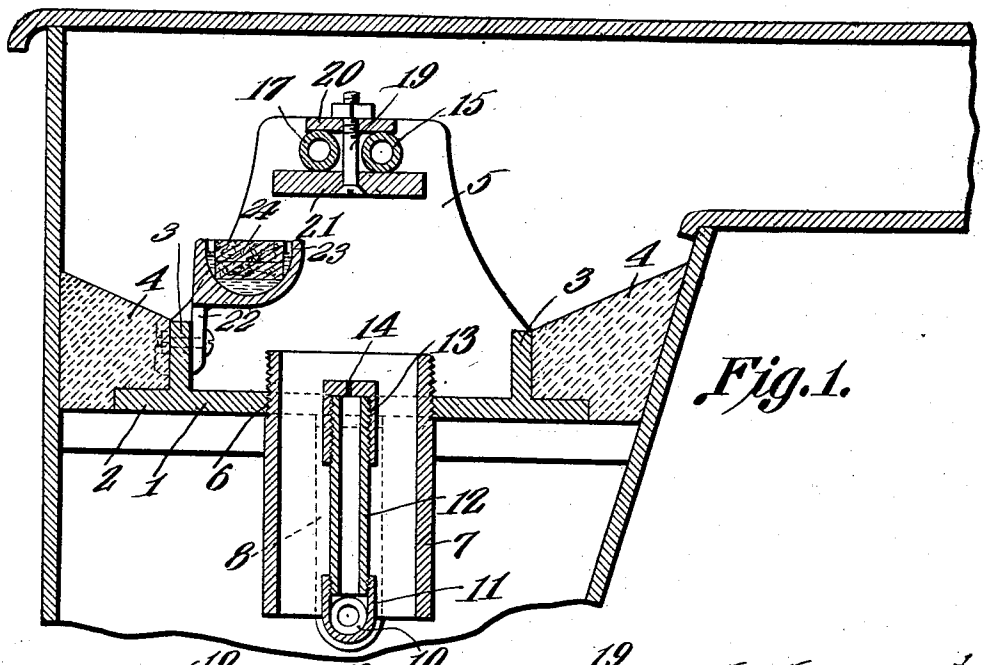

Fig. 1.

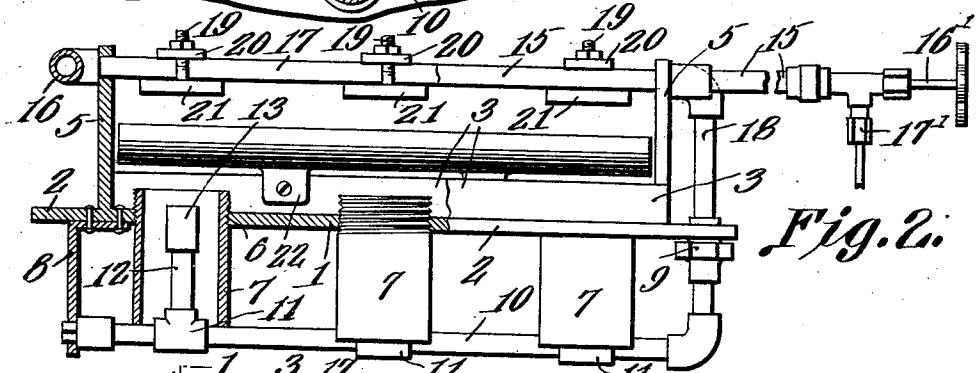

Fig. 2.

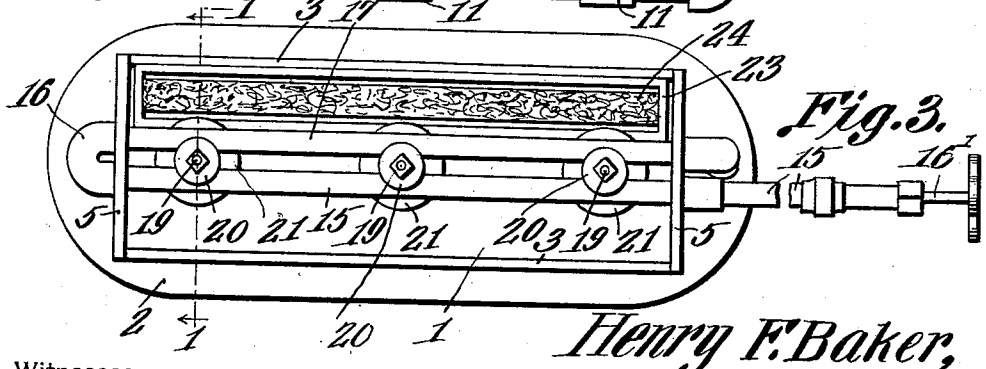

Fig. 3.

Witnesses

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OIL-BURNER.

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To all whom it may concern:

Be it known that I, HENRY F. BAKER, a citizen of the United States, residing at Gainesville, in the county of Hall and State of Georgia, have invented a new and useful Oil-Burner, of which the following is a specification.

The present invention relates to improvements in oil burners.

The primary object of the invention is the provision of an oil burner especially adapted for use in connection with a cooking range, the same being so constructed that the supporting base will fit upon the grate supporting ledges of the range, thus dividing the same into the usual fire box and ash compartment, said base carrying a plurality of parallel burner tubes, each of which is surrounded by an air conducting tube establishing communication between the ash pit and fire box, the oil being conducted through conduits disposed above the burner tubes within the fire box so that the oil will be properly vaporized before the distribution thereof to the burner tubes.

A still further object of the present invention is the provision of adjustable flame deflectors detachably connected to the vaporizing conduits and arranged directly above the respective burner tubes, whereby the flame is properly deflected to affect the lids of the range, the heat from the burner tubes being evenly distributed and prevented from being concentrated at any particular point above the fire box.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings—Figure 1 is a cross section through the fire box and ash pit of a range with the present oil burner in cross section and as upon lines 1—1 of Fig. 3. Fig. 2 is a side elevation of the complete burner, a portion of the farther end thereof being shown in longitudinal section. Fig. 3 is a top plan view of the complete burner.

Referring to the drawings, the numeral 1 designates the base plate which is formed oval in plan and rests upon the respective grate carrying flanges 2 of the range, and is provided with the upstanding rim 3 about which and upon the base 1 is placed the fire brick or other fire resisting material 4. By this means a partition is provided between the ash pit and the fire box of the range and air is prevented from entering from the ash pit to the fire box except through the air conducting tubes or conduits 7, as will presently appear.

The base 1 has the rim 3 cast thereto and also has cast thereto the upstanding brackets or standards 5 at the respective ends thereof, while formed in the base 1 between the rim 3 and the standards 5 are the interiorly threaded apertures 6 for the reception of the upper threaded ends of the air conducting tubes or pipes 7. The upper ends of these tubes or pipes are shown projected slightly above the base 1 while the greater portion thereof are extended below the base and into the ash pit each tube providing a means for supplying the air and causing the only communication between the ash pit and fire box of the range.

A bracket 8 is secured to the under side of the base 1 near one end thereof and with the union 9 constitutes a support for the gas supply tube or pipe 10 which is disposed below and longitudinally of the base 1 and below each air conducting tube 7, is a T-coupling 11 being connected to the pipe so as to present the respective burner tube 12 within and concentrically of its air conducting tube 7, there being a burner tube 12 to each tube or pipe 7.

The upper ends of the respective burner tubes 12 terminate substantially in a plane with the base plate 1 and each tube has threaded thereupon a cap 13, this cap 13 being provided with the gas duct 14 terminating at a point slightly below the upper end of its respective air conducting pipe or tube 7.

Supported between the upper ends of the brackets 5 above and parallel with the base 1 is the oil supplying conduit or pipe 15 which is provided with the needle valve 16′ and with the oil supply conduit 17′, the valve 16′ and conduit 17′ being projected and located exteriorly of the range to permit ready access thereto, while at the opposite end of the conduit or pipe 15 a return coupling 16 is provided which forms a means of communication between the conduit 15 and the conduit 17, said conduit 17

being parallel to the conduit 15 and also mounted in the upper end of the respective standards 5 and above the respective tubes 7 and 12, so that the pipes 15 and 17 are readily heated to provide vaporizing chambers for the oil supplied thereto before the passage thereof through the vertical pipe 18 to the gas supply pipe 10. By this means the oil supplied through the conduit 17 is subjected to the heat from the respective burner tubes 12 while in the respective pipes 15 and 17 and is there converted into a gas to be supplied to the gas pipe 10 and the burner tubes 12.

In order to deflect the flame from the respective burner tubes so that the heat may be properly distributed throughout the fire box of the range, a deflecting device is provided for each burner tube and consists of a bolt 19, which is disposed between the respective pipes 15 and 17 and clamps the upper disk 20 upon the upper surface of such pipes with the circular deflecting disk 21 below the under surface of the said pipes 15 and 17 and directly above and concentrically of its respective air conducting tube or pipe 7. By means of the bolt 19, each deflector may be readily removed for repair and cleaning and is easily placed in position above its respective burner tube as the bolt 19 fits in the space between the respective pipes 15 and 17, as clearly shown in Fig. 1.

In order to provide means for heating the tubes 15 and 17 to supply the initial vapor to the burner tubes 12, the arms or brackets 22 are detachably connected to one rim 3 of the base and carry the longitudinally disposed starting pan 23 which has disposed therein an asbestos wick 24 acting as an absorbent means to retain the priming oil during the burning thereof. The starting pan 23 is of such a size as to accommodate a sufficient amount of oil to properly heat the tubes 15 and 17 to produce the proper vaporization of the oil before its delivery to the burner tubes 12 where the gas is ignited, air being properly supplied through the tubes 7 about the caps 13 to produce the desired blue flame for cooking purposes.

From the foregoing description, it is evident that a range oil burner, constructed according to and embodying the present invention, properly distributes the heat throughout the longitudinal length of the fire box, while the deflectors 21 are so constructed and arranged as to distribute the heat from their individual burner tubes so that every part of the upper surface of the range is evenly heated and the same result is obtained from the burner tubes as with a coal grate.

What is claimed is:

1. An oil burner having a supporting base provided with a plurality of cylindrical air directing conduits vertically disposed therein, a gas supply pipe below the base and having a plurality of burner tubes one to each conduit and concentrically of and extending within its conduit, an oil conducting pipe disposed directly above the burner tubes and air conduits and in communication with the gas supply pipe, and a deflector to each tube connected to and bodily supported by said oil conducting pipe above its burner tube.

2. The combination with a stove having an ash pit and fire box, of an oil burner having a supporting base for forming a partition between the ash pit and fire box of the stove, said base being provided with a plurality of cylindrical air directing conduits vertically disposed therein and forming communication between the ash pit and fire box, a burner tube disposed concentrically of each air directing conduit, a gas supply pipe disposed below the base and connected to each burner tube, an oil supplying conduit in communication with the gas supply pipe and having two parallel portions mounted above the base and also above all of the upper ends of the air directing conduits, a circular deflector for each burner tube and air conducting conduit, and means for detachably connecting said deflector to the oil supplying conduit.

3. The combination with a stove having an ash pit and fire box, of an oil burner having a supporting base for forming a partition between the ash pit and fire box of the stove, said base being provided with a plurality of cylindrical air directing conduits vertically disposed therein and forming communication between the ash pit and fire box, a burner tube disposed concentrically of each air directing conduit, a gas supply pipe disposed below the base and connected to each burner tube, an oil supplying conduit in communication with the gas supply pipe and having two parallel portions mounted above the base and also above all of the upper ends of the air directing conduits, a circular deflector for each burner tube and air conducting conduit, a bolt passing concentrically through the deflector and between the parallel portions of the oil supplying conduit, and a clamping disk mounted upon the bolt above the parallel portions of the oil supplying conduit whereby each deflector is detachably connected to said conduit.

4. An oil burner having a base plate with an upstanding rim and two oppositely disposed integral posts at the respective ends thereof and of greater height than the rim, said base plate being provided with a plurality of longitudinally alined apertures, an air conducting cylindrical conduit mounted in each aperture of the base plate, the upper end thereof projecting above the upper surface of the base plate, a gas supply pipe supported below the base plate and the respec-

tive air conducting conduits, a burner tube connected to said gas pipe and concentrically of and within each air conducting conduit, the upper end of each burner tube terminating at a point below the upper ends of the air conducting conduits, and an oil conducting and vaporizing conduit mounted in the posts of the base plate and above all of the respective burner tubes and air conduits.

5. An oil burner having a base plate with an upstanding rim and two oppositely disposed integral posts at the respective ends thereof and of greater height than the rim, said base plate being provided with a plurality of longitudinally alined apertures, an air conducting cylindrical conduit mounted in each aperture of the base plate, the upper end thereof projecting above the upper surface of the base plate, a gas supply pipe supported below the base plate and the respective air conducting conduits, a burner tube connected to said gas pipe and concentrically of and within each air conducting conduit, the upper end of each burner tube terminating at a point below the upper ends of the air conducting conduits, an oil conducting and vaporizing conduit mounted in the posts of the base plate and above all of the respective burner tubes and air conduits, and a circular flame deflector for each burner tube connected to and supported by the oil conducting and vaporizing conduit.

6. An oil burner having a base plate with an upstanding rim and two oppositely disposed integral posts at the respective ends thereof and of greater height than the rim, said base plate being provided with a plurality of longitudinally alined apertures, an air conducting cylindrical conduit mounted in each aperture of the base plate, the upper end thereof projecting above the upper surface of the base plate, a gas supply pipe supported below the base plate and the respective air conducting conduits, a burner tube connected to said gas pipe and concentrically of and within each air conducting conduit, the upper end of each burner tube terminating at a point below the upper ends of the air conducting conduits, an oil conducting and vaporizing conduit mounted in the posts of the base plate and above all of the respective burner tubes and air conduits, said oil supplying and vaporizing conduit being composed of a pipe bent upon itself to provide a longitudinal space throughout the length of the base plate, a circular deflecting disk for each burner tube, and a bolt disposed in the space of the oil supplying and vaporizing conduit for supporting the deflecting disk.

7. An oil burner having a supporting base, said base being provided with a plurality of cylindrical air directing conduits vertically disposed therein and for directing air from below to above the base, a burner tube disposed concentrically of each air directing conduit, a gas supply pipe disposed below the base and connected to each burner tube, an oil supplying conduit composed of a pipe bent upon itself and mounted above the base and also above all of the upper ends of the air directing conduits, said oil supplying conduit being in communication with the gas supply pipe, a circular deflector for each burner tube and air conducting conduit, means for detachably connecting each deflector to the oil supplying conduit, and a starting pan connecting to and supported longitudinally of the base plate and to one side of and below the oil supplying conduit.

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

HENRY F. BAKER.

Witnesses:
J. D. OSBORNE,
C. L. NEWTON.