May 13, 1924.

1,493,791

W. F. PAGEL

PLUMBER'S HEATING DEVICE

Filed Dec. 11, 1922

Fig. 1.

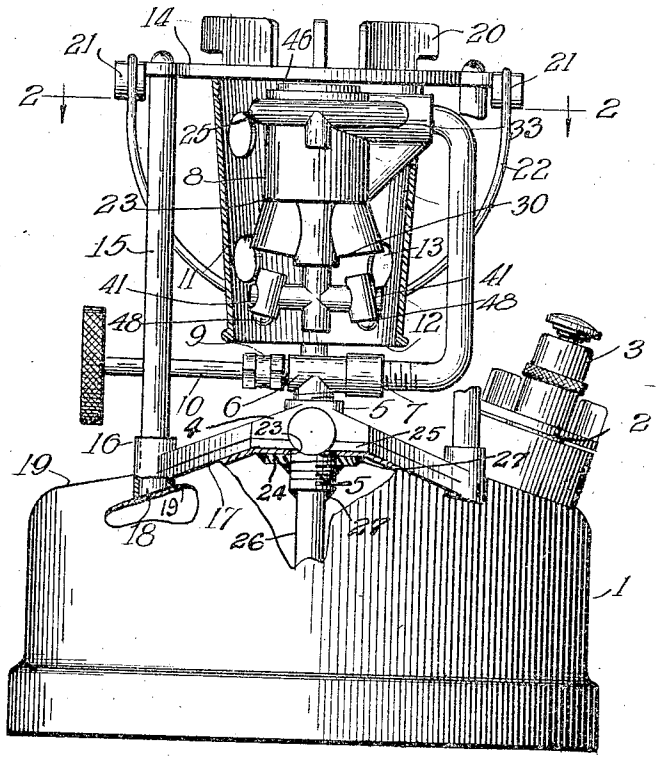
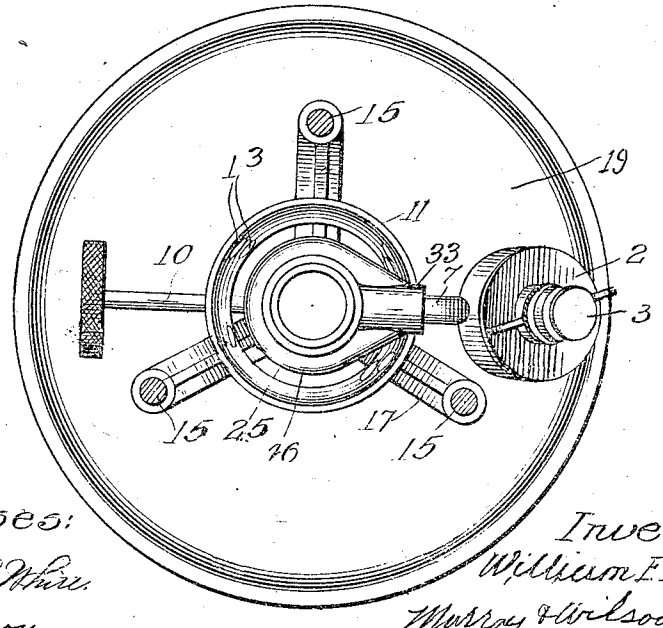


Fig. 2.



Witnesses:
Harry B. L. White.
W. P. Kilroy

Inventor.
William F. Pagel,
By Murray & Wilson
Atty.

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UNITED STATES PATENT OFFICE.

WILLIAM F. PAGEL, OF SYCAMORE, ILLINOIS.

PLUMBER'S HEATING DEVICE.

Application filed December 11, 1922. Serial No. 606,019.

To all whom it may concern:

Be it known that I, WILLIAM F. PAGEL, a citizen of the United States, and resident of Sycamore, in the county of De Kalb and State of Illinois, have invented certain new and useful Improvements in Plumbers' Heating Devices, of which the following is a specification.

My invention relates to improvements in plumbers' heating devices and has special reference to the construction of plumbers' furnaces and to burners for use therewith.

Such a furnace is usually provided with a frame work rising from a base reservoir, the frame work carrying a burner adapted to be fed with liquid fuel from the reservoir and having a top for supporting a melting pot above the burner and my object is to provide such a furnace with a mounting for the frame work in which the openings in the top of the reservoir shall be limited to inlet and outlet openings for the fuel, the frame work being so built and arranged that it is held in position by the closure of the exit opening and is provided with legs or standards which merely rest upon the top of the reservoir but do not project through the upper wall thereof.

The metal melting pots which plumbers use and which are supported upon the frame work of the furnace are quite heavy and it frequently happens that they are more or less carelessly placed on the frame work with a heavy blow. In the old constructions where the supports for the frame work are secured in the top wall of the reservoirs, the careless placing of the pots frequently causes these connections to become loosened, thus necessitating costly repairs before the furnace can be again used.

By my novel construction wherein the supports for the frame work, except only the central connection, merely rest upon the top of the reservoir, no such objectionable conditions can arise for there are no openings in the top wall which can be caused to leak by careless use.

My invention will be more readily understood by reference to the accompanying drawings forming part of this specification, and in which:—

Figure 1 is a side elevation partly in section of a plumber's furnace made in accordance with my invention; and

Figure 2 is a horizontal plan section on the line 2—2 of Figure 1.

In said drawings 1 represents a fuel reservoir of the usual character which forms the base of the furnace and is provided with a filling plug 2 at one side of the top which carries a hand air pump 3 by which pressure can be applied to the base to force the liquid fuel contained therein up into the burner. The base is provided with a central opening in which is secured a base bracket 4 which carries a frame work arranged above the base and within which the burner is supported for use. The base bracket 4 has a central nozzle 5 in which the side outlet of a T-connection 6 is secured. One end of the T is connected by a pipe 7 through which fuel is fed from the base to a burner 8 supported above the base. The opposite end of the T is closed by a packing member 9 through which a valve stem 10 is projected for regulating the outflow of fuel from the base to the burner. The burner 8 is arranged centrally above the base and is enclosed within a shell 11 which is open at its bottom end 12 for the admission of air and is provided in its side walls with a plurality of openings 13 for the same purpose.

This shell is slightly smaller in diameter at the bottom than at the top such cone shape assisting in the production of a draft through the burner. The shell 11 depends from a top plate 14 which is secured and supported on the upper ends of three vertical posts 15. The lower ends of these posts are secured in bosses 16 which are formed on the outer ends of radial arms 17 which form parts of the base bracket 4. The lower ends 18 of these bosses are inclined to substantially fit upon the upper inclined surface 19 of the reservoir 1. The top plate 14 is provided with upstanding thin members 20 upon which the vessel or pot which it is desired to heat can be supported. This plate is also provided with grooved lugs 21, one at each side, for receiving a suitable bail or handle 22 for carrying the furnace about.

The construction of the frame work and burner, carried entirely upon the base bracket 4, is one of the important features of my invention. Heretofore the vertical supports 15 have been secured in the top wall of the reservoir and this has necessitated the provision of holes through this wall which are always sources of possible leaks. I avoid all openings except the filling and outlet

openings and by means of the base bracket 4 which carries the supports 15 at the outer ends of the arms 17 I am enabled to rigidly brace the frame work upon the top of the base without otherwise securing the bracket to the base.

The nozzle 5 of the base bracket 4 depends through a central opening 23 in the top wall of the reservoir 1. The nozzle 5 is externally threaded to receive a nut 24 for clamping the top wall firmly to the base bracket 4. The base bracket 4 has a bottom flange or shoulder 25 opposed to the nut 24 for tightly and firmly clamping the top wall of the reservoir. A fuel feed pipe 26 leads from the lower end of the nozzle 5 down to the bottom of the reservoir. After the frame work and reservoir have been assembled as described, and before the bottom of the reservoir is sealed in place, all of the contacting surfaces and joints of the connection are tightly sealed by solder, as shown at 27.

I do not herein claim the specific construction of the burner shown, such forming the subject matter of my co-pending application filed June 4, 1923, Serial Number 643,300.

As many modifications of my invention will readily suggest themselves to one skilled in the art, I do not limit or confine my invention to the specific details of construction herein shown and described.

I claim:

1. In a furnace of the kind described, a sheet metal reservoir for liquid fuel forming the base of the furnace, a frame work above the base including a top plate, the frame work provided with a base bracket secured in a central opening in the top of the base and having parts extending out and resting upon the top wall of the base, as and for the purpose specified.

2. In a furnace of the kind described, a sheet metal base forming a fuel reservoir and provided in its top with an inlet and with a central outlet opening, a frame work for supporting a burner above the base, the frame work adapted to rest upon the top surface of the base and be secured in the outlet opening and having parts adapted to rest upon the base at a distance from the central opening, as and for the purpose specified.

3. In a furnace of the kind described, a sheet metal fuel reservoir which serves as a base, the reservoir provided with a central outlet opening in its top wall, a base bracket secured in said opening and provided with a plurality of radial arms, the outer ends of which are adapted to rest upon the top wall of the base, standards secured in and rising from said outer ends, a top plate secured on the upper ends of the standards, an open bottomed casing depending from said plate, a burner within said casing and means for delivering fuel from the base to said burner.

4. In a device of the character described, a thin walled fuel reservoir, a frame work supported on the reservoir, a burner carried by the frame work, a single opening in the top wall of the reservoir for securing the frame work in place, and for feeding fuel to the burner, a second opening in the top wall of the reservoir for introducing fuel into the reservoir, and an air pump adapted for forcing air into the reservoir, said pump adapted to normally seal the fuel inlet opening.

5. In a device of the character described, a thin walled reservoir provided with but two openings in its walls, a frame work secured in one opening by a hollow stem, a burner carried by the frame work and adapted to be fed by fuel through said hollow stem, an air pump removably mounted in the other opening for use in creating a pressure within the reservoir, the second opening serving as a fuel inlet when the pump is removed.

6. In a heating device of the kind described, a sheet metal base serving as a fuel reservoir, a burner above the base, a support for the burner, a downwardly projecting part rigid with the burner support, the reservoir provided with a hole in its top wall for receiving said downwardly projecting part, means on said part for tightly clamping the top wall of the reservoir, and said downwardly projecting part being hollow for conducting fuel from the reservoir to the burner.

7. In a heating device of the kind described, a base comprising a sheet metal fuel reservoir, a burner above the base, a burner support, a depending nozzle on the support, the nozzle projecting through the top wall of the reservoir, a flat shoulder surrounding the nozzle for contact with the top wall of the reservoir, means on the nozzle within the reservoir for clamping the top wall of the reservoir against said shoulder, said nozzle being hollow for conducting fuel from the reservoir to the burner.

Signed at Chicago, Illinois, this 7th day of December, 1922.

WILLIAM F. PAGEL.