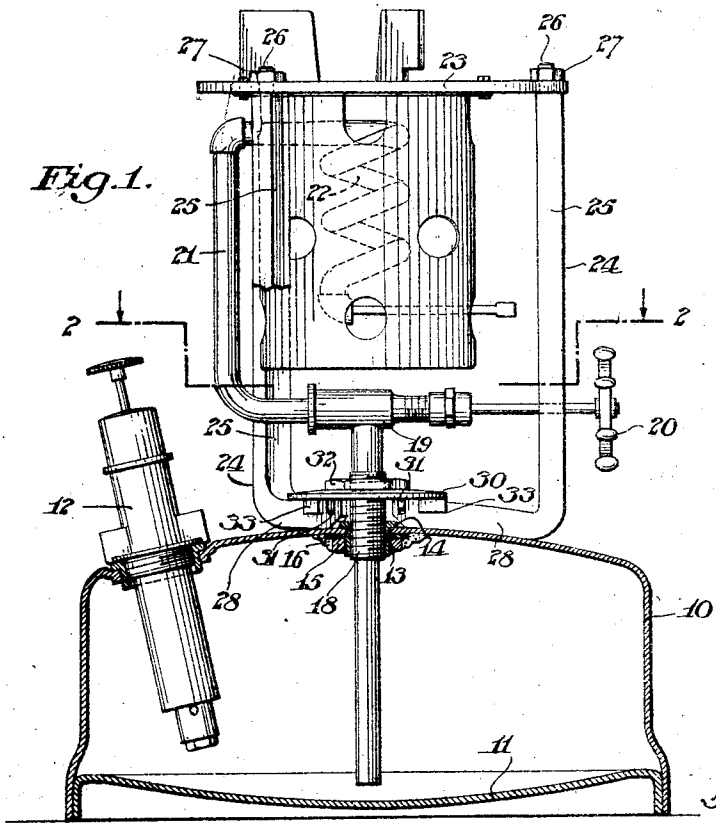
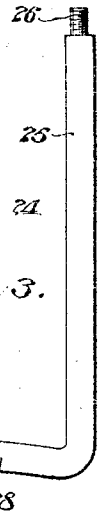
Oct. 13, 1925. 1,556,644

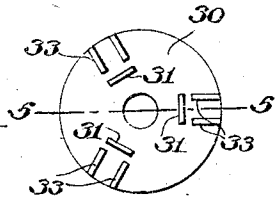
C. STICHLER

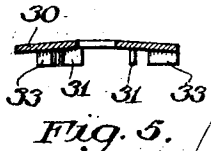
PLUMBER'S FURNACE

Filed Nov. 17, 1924 2 Sheets-Sheet 1









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PLUMBER'S FURNACE

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Fig. 6.

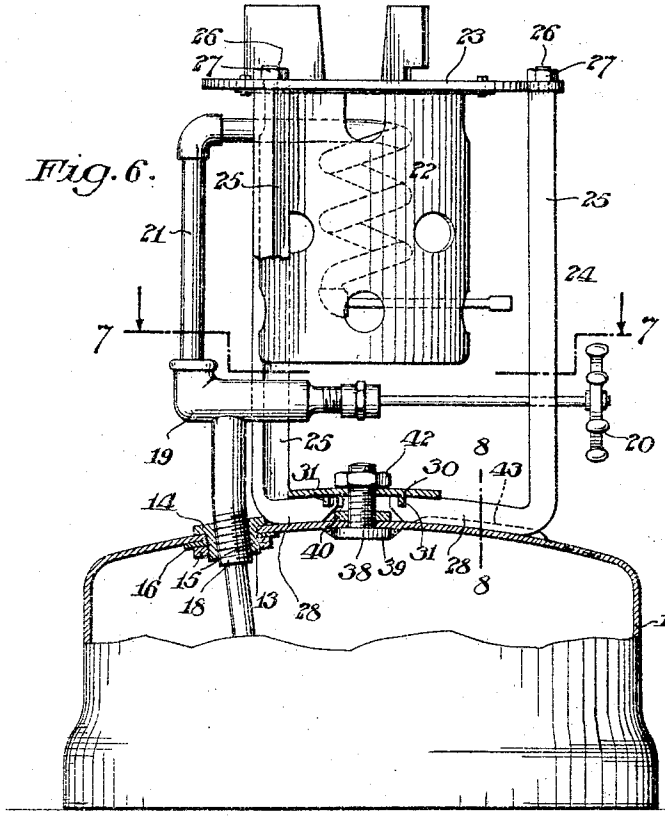


Fig. 8.

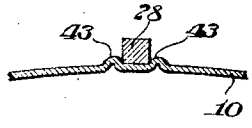


Fig. 9.

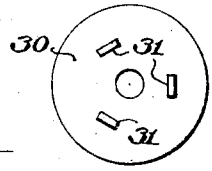
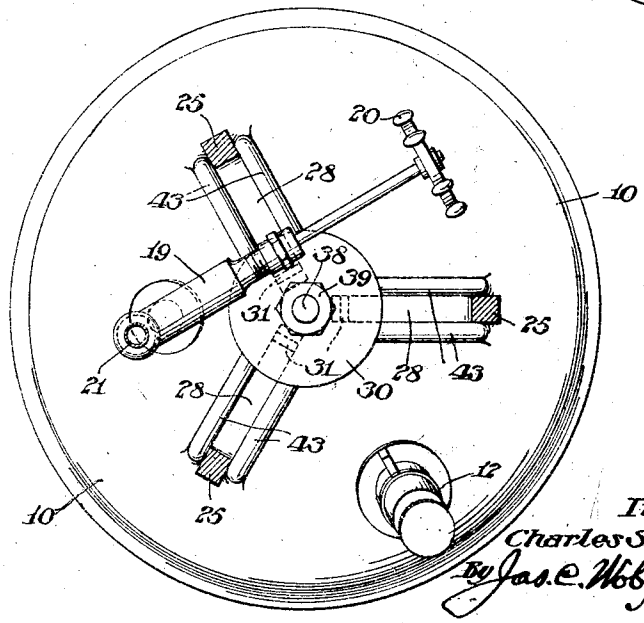


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES STICHLER, OF PHILADELPHIA, PENNSYLVANIA.

PLUMBER'S FURNACE.

Application filed November 17, 1924. Serial No. 750,284.

To all whom it may concern:

Be it known that I, CHARLES STICHLER, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Plumbers' Furnaces, of which the following is a specification.

My invention relates to improvements in plumbers' furnaces and the like, and it has particular relation to the construction and arrangement of the framework for supporting the melting pot or the tools to be heated, and to the means for securing said framework to the fuel receptacle which constitutes the base of the structure.

Plumbers' furnaces and the like, as usually constructed, comprise a base tank or fuel receptacle, to which is secured a framework for supporting the top plate upon which the melting pot or the tools to be heated are adapted to be placed, said top plate and framework having associated therewith a burner including a vaporizer to which the fuel is fed by pneumatic pressure from the base tank.

Apparatus of this character is naturally subjected in use to much rough handling, and it frequently happens that leaks are caused where the parts of the framework are joined to the base tank, thereby rendering the apparatus inoperative until repaired, and, with the various constructions of framework heretofore devised for structures of this type, the repairs thus necessitated were difficult to make.

The object, therefore, of my present invention is to provide an improved form of framework, and means for securing the same, which will be strong and rigid, yet relatively light, which is so constructed and arranged that the necessity for repairs will be reduced to a minimum, but which, however, may be readily taken apart and reassembled for the purpose of repair should occasion for the same occur.

The nature and characteristic features of my present invention will be more readily understood from the following description, taken in connection with the accompanying drawings forming part hereof, in which:

Figure 1 is a side elevation, partly in section, of a plumber's furnace embodying the main features of my present invention;

Fig. 2 is a horizontal section thereof, taken approximately on the line 2—2 of Fig. 1;

Fig. 3 is a side elevation of a support or standard constituting one of the parts of the framework;

Fig. 4 is an underneath plan view of a securing plate employed for attaching the framework to the base tank;

Fig. 5 is a vertical section of the securing plate, taken approximately on the line 5—5 of Fig. 4;

Fig. 6 is a view similar to Fig. 1, showing a modified form or embodiment of my invention;

Fig. 7 is a horizontal section thereof, taken approximately on the line 7—7 of Fig. 6;

Fig. 8 is a fragmentary vertical section, taken approximately on the line 8—8 of Fig. 6; and

Fig. 9 is a view similar to Fig. 4, but illustrating the securing plate used in the modified form of the invention shown in Fig. 6.

Referring now more particularly to Figs. 1 to 5 of the drawings, 10 is a tank constituting the base of the structure and serving as a receptacle for the gasoline, kerosene, or other fuel employed. The tank 10 is preferably of the type of tank at present in common use, in which the top and side walls are formed from a single integral piece of sheet metal, in which the bottom plate 11 is secured by welding, brazing, or in any other suitable manner, so as to provide a permanently closed, substantially leak-proof tank.

Mounted in the top portion of the tank 10, in any suitable manner, is the usual air pump 12, which may be of any preferred construction, for the purpose of creating the requisite pressure within the tank 10 whereby the fuel will be fed to the burner under the requisite pressure.

In the form of the invention shown in Figs. 1 to 5 of the drawings, the means for securing the framework to the base tank are combined with the means for permitting the fuel to pass to the burner. In this arrangement, a central opening is provided in the top portion of the tank, in which opening a threaded bushing 13 may be permanently mounted, the bushing 13 being provided with an external top flange 14. The lower portion of the bushing 13, which extends within the tank 10, may be threaded for the

reception of a nut 15 for maintaining the bushing 13 in place. A washer 16 may be interposed between the nut 15 and the inner surface of the tank 10 adjacent the central opening. The bushing 13, washer 16, and nut 15 are preferably assembled in the central opening in the top of the tank 10 prior to the closing of the bottom of the tank, and, to prevent leakage, the same are preferably brazed, soldered, or welded after being thus assembled.

The bushing 13 is internally threaded for the reception of the threaded portion 18 of a fitting for supplying the fuel to the burner, which fitting may comprise a valve 19 of any preferred type, having the usual hand wheel 20 for regulating the amount of fuel fed to the burner. In the arrangement shown, the fuel is fed from the valve 19 by means of a pipe 21 to the burner 22, which burner may be of any preferred design and arrangement.

Arranged above the burner 22 is the top plate 23 usually employed in structures of this type, upon which top plate 23 the melting pot or the tools to be heated are placed when the furnace is in operation. It will, of course, be understood that this top plate may be provided with the usual appurtenances such as are commonly used for supporting the melting pot or the tools to be heated. The top plate 23 is supported by means of suitable standards 24, one of which is shown detached in Fig. 3 of the drawings. The standards 24 comprise L-shaped members, each having a vertical portion 25. The top end of each vertical portion 25 is threaded as at 26, these threaded portions 26 extending through suitable apertures in the top plate 23, and nuts 27 are provided to secure the top plate at the upper ends of the vertical portions 25 of the standards 24. The lower portions 28 of the standards 24 are shaped to conform to the top surface of the tank 10, and the ends of said lower portions 28 of the standards 24 (which ends, in the assembled arrangement, extend toward the central axis of the structure) are notched as at 29.

A securing plate 30 surrounds the threaded portion 18 of the valve 19 or other fitting which is mounted in the top of the tank. The under surface of the securing plate 30 engages the top surfaces of the lower portions 28 of the L-shaped standards 24, and projecting from the under side of the securing plate 30 are lugs 31 which engage the notches 29 in the ends of the lower portions 28 of the standards 24.

A nut 32 is mounted on the threaded portion 18 of the fitting 19 and is adapted, when advanced downward on said thread, to cause the securing plate 30 to clamp the lower portions 28 of the standards 24. The securing plate 30 is also provided with lugs 33 which extend downward on each side of the lower portions 28 of the standards 24, these lugs 33 serving to prevent twisting of the standards 24 when the nut 32 is sufficiently advanced to clamp the securing plate 30 against the lower portions 28 of the standards 24.

As hereinbefore pointed out, the bushing 13 is permanently secured in the top of the tank 10. In the assembling of the structure, the nut 32 and securing plate 30 are placed upon the shank of the fitting 19, after which the threaded portion 18 of the fitting 19 is mounted in the top of the tank 10 by being threaded in the bushing 13. The burner parts may be associated with the fitting 19 either before or after the fitting 19 is threaded in the bushing 13, as may be preferred by the person assembling the apparatus. After the fitting 19 is mounted in the top of the tank, the standards 24 are positioned with the ends of the lower portions 28 extending under the securing plate 30, the lugs 31 of the securing plate engaging the notches 29 of the lower portions 28 of the standards 24, and the lugs 33 extending on the respective sides of said lower portions 28 of the standards 24.

The nut 32 is then advanced upon the threaded portion 18 of the fitting 19 to clamp the lower portions 28 of the standards 24 upon the top of the tank 10. The top plate 23 is mounted upon the upper ends of the vertical portions 25 of the standards 24, and is secured in place thereon by means of the nuts 27 which are mounted upon the threaded ends 26 of the standards 24. In the preferred procedure of mounting the top plate 23, the same will be secured on the top ends of the standards 24 after the standards 24 are positioned but before the nut 32 is advanced on the threaded portion 18 of the fitting 19 to its final clamping position.

It may be found desirable to secure the framework to the top of the tank without using the fitting which forms part of the means for conveying fuel to the burner, and where such a construction is preferred, the arrangement shown in Figs. 6 to 8 of the drawings may be employed. In this arrangement, the bushing 13, instead of being centrally mounted in the top of the tank 10, is mounted in an aperture located in the top of the tank some distance from the center thereof, and in this instance a bolt 38 is mounted in the central aperture in the top of the tank. The head 39 of the bolt 38 engages the top portion of the tank 10 on the inner surface thereof. A nut 40 is threaded on the bolt 38 and engages the outer surface of the top portion of the tank 10 to hold the bolt 38 rigidly with respect thereto.

The bolt 38 and nut 40 preferably are

assembled in the top portion of the tank 10 before the bottom of the tank is secured in place, and the same are brazed, welded, or soldered with respect to the top portion of the tank 10 so as to be permanently mounted therein. In this arrangement, the standards 24 and top plate 23 are constructed and arranged substantially as hereinbefore described with respect to the form of the invention shown in Figs. 1 to 5, and the securing plate 30 is clamped against the upper surfaces of the lower portions 28 of the standards 24 by means of a nut 42 which is threaded on the projecting upper end of the bolt 38.

In Figs. 6 to 8 of the drawings, there is also shown a modified form of means for preventing twisting of the standards with respect to the top portion of the tank 10 after the same are secured in place thereon. In this arrangement, in lieu of the lugs 33 which are employed in the structure shown in Figs. 1 to 5 of the drawings, the top portion of the tank 10 may have formed thereon ribs 43 which are so located as to engage the lower side edges of the lower portions 28 of the standards 24. It will, of course, be understood that this means of preventing twisting of the standards 24 may be employed in connection with the arrangement shown in Figs. 1 to 5 of the drawings, if desired.

It will be seen that by the structure herein described there is provided an arrangement in which the parts may be readily taken apart for the purpose of repair, it being necessary merely to slack off the nut 32, whereby the parts may be readily dissociated for such repairs as may be necessary, after which the parts may be readily re-assembled. It will also be noted that by the present arrangement likelihood of leakage of the air pressure in the base tank will be reduced to a minimum, while at the same time there is afforded an exceedingly rigid, yet relatively light, construction. It will also be understood that my invention is susceptible of embodiment in other forms without departing from the spirit of the invention.

Having thus described the nature and characteristic features of my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a furnace of the character described, a base tank, and framework mounted thereon including a plurality of separate standards each substantially L-shaped, the lower portions of said standards conforming to the top surface of the base tank and projecting inwardly toward the central axis of the structure, and means for clamping said lower portions of the standards on the top of the base tank.

2. In a furnace of the character described, a base tank, and framework mounted thereon including a plurality of separate standards each substantially L-shaped, the lower portions of said standards conforming to the top surface of the base tank and projecting inwardly toward the central axis of the structure, a threaded member centrally mounted in the top of the tank, and means associated with said threaded member for clamping the lower portions of the standards.

3. In a furnace of the character described, a base tank, and framework mounted thereon including a plurality of substantially L-shaped standards, the lower portions of said standards conforming to the top surface of the base tank and projecting inwardly toward the central axis of the structure, a threaded member centrally mounted in the top of the tank, a securing plate associated with said threaded member engaging the lower portions of the L-shaped standards, and a nut mounted on said threaded member for clamping said securing plate against the lower portions of the standards.

4. In a furnace of the character described, a base tank, and framework mounted thereon including a plurality of substantially L-shaped standards, the lower portions of said standards conforming to the top surface of the base tank and projecting inwardly toward the central axis of the structure, a threaded member centrally mounted in the top of the tank, a securing plate associated with said threaded member engaging the lower portions of the L-shaped standards, and a nut mounted on said threaded member for clamping said securing plate against the lower portions of the standards, and means for preventing displacement of the lower portions of the standards.

5. In a furnace of the character described, a base tank, and framework mounted thereon including a plurality of substantially L-shaped standards, the lower portions of said standards conforming to the top surface of the base tank and projecting inwardly toward the central axis of the structure, a threaded member centrally mounted in the top of the tank, a securing plate associated with said threaded member engaging the lower portions of the L-shaped standards, and a nut mounted on said threaded member for clamping said securing plate against the lower portions of the standards, the lower portions of the standards having notches and the securing plate having lugs engaging said notches to prevent displacement of said standards.

6. In a furnace of the character described, a base tank, and framework mounted thereon including a plurality of substantially L-shaped standards, the lower portions of said standards conforming to the top surface of

the base tank and projecting inwardly toward the central axis of the structure, a threaded member centrally mounted in the top of the tank, a securing plate associated with said threaded member engaging the lower portions of the L-shaped standards, and a nut mounted on said threaded member for clamping said securing plate against the lower portions of the standards, the lower portions of the standards having notches and the securing plate having lugs engaging said notches to prevent displacement of said standards, and means for preventing twisting of said standards.

7. In a furnace of the character described, a base tank, and framework mounted thereon including a plurality of substantially L-shaped standards, the lower portions of said standards conforming to the top surface of the base tank and projecting inwardly toward the central axis of the structure, a threaded member centrally mounted in the top of the tank, a securing plate associated with said threaded member engaging the lower portions of the L-shaped standards, and a nut mounted on said threaded member for clamping said securing plate against the lower portions of the standards, the lower portions of the standards having notches and the securing plate having lugs engaging said notches to prevent displacement of said standards, and said securing plate having lugs adapted to prevent twisting of said standards.

8. In a furnace of the character described, a base tank, and framework mounted thereon including a top plate and a plurality of separate standards each substantially L-shaped, the upper portions of said standards being rigidly secured to the top plate, and the lower portions of said standards conforming to the top surface of the base tank and projecting inwardly toward the central axis of the structure, and means for clamping said lower portions of the standards on the top of the base tank.

9. In a furnace of the character described, a base tank, and framework mounted thereon including a top plate and a plurality of separate standards each substantially L-shaped, the upper portions of said standards being rigidly secured to the top plate, and the lower portions of said standards conforming to the top surface of the base tank and projecting inwardly toward the central axis of the structure, a threaded member centrally mounted in the top of the tank, and means associated with said threaded member for clamping the lower portions of the standards.

10. In a furnace of the character described, a base tank, and a framework mounted thereon including a top plate and a plurality of substantially L-shaped standards, the upper portions of said standards being rigidly secured to the top plate, and the lower portions of said standards conforming to the top surface of the base tank and projecting inwardly toward the central axis of the structure, a threaded member centrally mounted in the top of the tank, a securing plate associated with said threaded member engaging the lower portions of the L-shaped standards, and a nut mounted on said threaded member for clamping said securing plate against the lower portions of the standards.

11. In a furnace of the character described, a base tank, and a framework mounted thereon including a top plate and a plurality of substantially L-shaped standards, the upper portions of said standards being rigidly secured to the top plate, and the lower portions of said standards conforming to the top surface of the base tank and projecting inwardly toward the central axis of the structure, a threaded member centrally mounted in the top of the tank, a securing plate associated with said threaded member engaging the lower portions of the L-shaped standards, and a nut mounted on said threaded member for clamping said securing plate against the lower portions of the standards, and means for preventing displacement of the lower portions of the standards.

12. In a furnace of the character described, a base tank, and a framework mounted thereon including a top plate and a plurality of substantially L-shaped standards, the upper portions of said standards being rigidly secured to the top plate, and the lower portions of said standards conforming to the top surface of the base tank and projecting inwardly toward the central axis of the structure, a threaded member centrally mounted in the top of the tank, a securing plate associated with said threaded member engaging the lower portions of the L-shaped standards, and a nut mounted on said threaded member for clamping said securing plate against the lower portions of the standards, the lower portions of the standards having notches and the securing plate having lugs engaging said notches to prevent displacement of said standards.

13. In a furnace of the character described, a base tank, and a framework mounted thereon including a top plate and a plurality of substantially L-shaped standards, the upper portions of said standards being rigidly secured to the top plate, and the lower portions of said standards conforming to the top surface of the base tank and projecting inwardly toward the central axis of the structure, a threaded member centrally mounted in the top of the tank, a securing plate associated with said threaded member engaging the lower portions of the L-shaped standards, a nut mounted on said threaded

member for clamping said securing plate against the lower portions of the standards, the lower portions of the standards having notches and the securing plate having lugs engaging said notches to prevent displacement of said standards, and means for preventing twisting of said standards.

14. In a furnace of the character described, a base tank, and a framework mounted thereon including a top plate and a plurality of substantially L-shaped standards, the upper portions of said standards being rigidly secured to the top plate, and the lower portions of said standards conforming to the top surface of the base tank and projecting inwardly toward the central axis of the structure, a threaded member centrally mounted in the top of the tank, a securing plate associated with said threaded member engaging the lower portions of the L-shaped standards, and a nut mounted on said threaded member for clamping said securing plate against the lower portions of the standards, the lower portions of the standards having notches and the securing plate having lugs engaging said notches to prevent displacement of said standards, and said securing plate having lugs adapted to prevent twisting of said standards.

In testimony whereof, I have hereunto signed my name.

CHARLES STICHLER.