April 5, 1932. S. L. WILLIS 1,851,994

COMPOSITE DRUM FOR OIL HEATERS AND COOKING STOVES

Filed Oct. 15, 1928

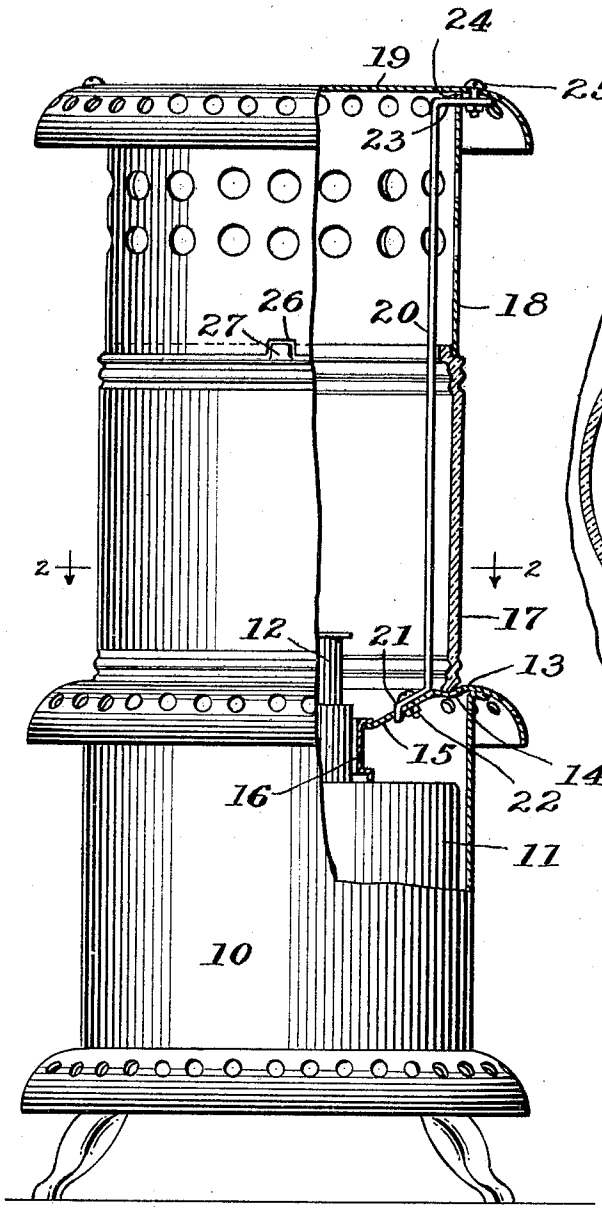

Fig. 1.

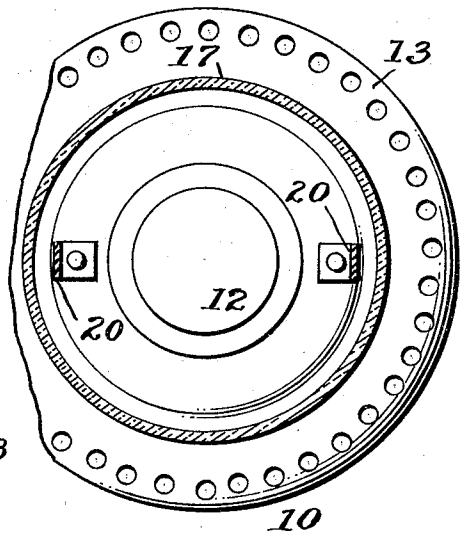

Fig. 2.

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UNITED STATES PATENT OFFICE

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COMPOSITE DRUM FOR OIL HEATERS AND COOKING STOVES

Application filed October 15, 1928. Serial No. 312,663.

This invention relates to improvements in stoves, and more particularly to liquid fuel heating or cooking stoves.

Much difficulty has been experienced, in seaboard areas, with stoves of the type herein referred to due to the products of combustion combining with moist salt air and corroding the metallic parts from which the chimneys and heating drums are ordinarily made. It is well known that corrosion of a chimney or drum takes place with the greatest rapidity in that area which is closest to the flame. Attempts have been made to remedy this condition by coating the chimneys and drums with a corrosion-resistant substance, such as vitreous enamel, but this has not proven wholly successful owing to the tendency of the enamel to chip and crack, and expose the metal to the corrosive action.

An object of the present invention is to increase the resistance to corrosion of chimneys and heating drums of oil stoves, and hence lengthen the period of utility of such articles.

Another object is to improve the heat distribution and radiation of oil heating stoves.

Still another object is to enable the user to readily detect the condition of the flame.

The above and other objects may be attained by the use of my invention which embodies among its features, a composite chimney or drum wherein that portion of it which is most subject to corrosion is produced from a corrosive resistant material such as a low-expansion heat-resisting glass of the type disclosed in Letters Patent No. 1,304,623 issued to Sullivan and Taylor May 27, 1919, the distribution of the radiant heat from the flame through the chimney or heating drum directly into the surrounding atmosphere, and the visibility of the entire flame.

In the drawings,

Fig. 1 is a side view of a heating stove embodying a heating drum constructed in accordance with this invention, portions being broken away to more clearly illustrate the details of construction, and

Fig. 2 is a transverse sectional view taken on the line 2—2 of Fig. 1.

Referring to the drawings in detail, the stove designated generally 10 comprises the usual oil reservoir 11 on the top of which the usual burner 12 is mounted. Supported on the reservoir and completely encircling the burner is a ring 13 which curves downwardly and outwardly to form an apron which is provided at its inner edge with a seat 14 for the reception of the heating drum. A flange 15 extends inwardly and downwardly from the seat 14 and is provided at its inner edge with a sleeve 16 which surrounds the burner 12.

The heating drum comprises a cylindrical glass member 17, the lower edge of which rests upon the seat 14 while its upper edge supports a sheet metal cylinder 18. The upper end of the heating drum is provided with a perforated metallic cap 19 and the parts are secured together by tie rods 20 which extend through the drum from one end to the other. The lower end of each tie rod is inturned as at 21 and is perforated to receive a bolt 22 by which the rod is secured to the flange 15. The upper end of each tie rod is turned outwardly as at 23 and extends through a slot 24 formed in the upper edge of the metal cylinder 18. Formed near the outer end of the out-turned portion 23 of each tie rod is a threaded opening for the reception of a screw 25 by which the cap 19 is clamped tightly against the upper edge of the cylinder 18.

In order to prevent relative rotation between the glass and the metal cylinders, 17 and 18 respectively, which form the composite heating drum, the metal cylinder is provided at its lower edge with a notch 26 for the reception of a lug 27 which is formed integrally with the glass cylinder 17.

When a heating drum such as that herein described is used in connection with oil stoves of the ordinary type the heat radiated from the burner passes through the glass and little or no loss is experienced through conductivity. Moreover, the products of combustion have no corrosive effect upon the glass part which is nearest the flame and consequently the hottest, so that heating drums so constructed may be used in seaboard areas without serious depreciation through the corrosive

action of the products of combustion and the atmosphere.

While in the foregoing is shown and described a preferred embodiment of my invention, I do not wish to be limited to the specific features of construction, combination, and arrangement of parts, as it is recognized that many alterations such as adapting the device for use in cooking stoves may be resorted to without departing from the spirit and scope of the invention as defined in the appended claim.

I claim:

The combination with a liquid fuel stove having a burner, a housing surrounding the burner and an annular seat on the housing, of a chimney comprising a cylinder of transparent non-corrosive material seated on the annular seat and completely encircling the burner, a metallic cylinder supported on the upper end of the first mentioned cylinder, said metallic cylinder having a notch in its lower edge, a lug adjacent the upper end of the non-corrosive cylinder for engaging in the notch to prevent rotation of one cylinder relative to the other, a plate closing the upper end of the metallic cylinder and tie rods extending between the housing and the plate for holding the separate parts of the chimney together and in position on the stove.

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