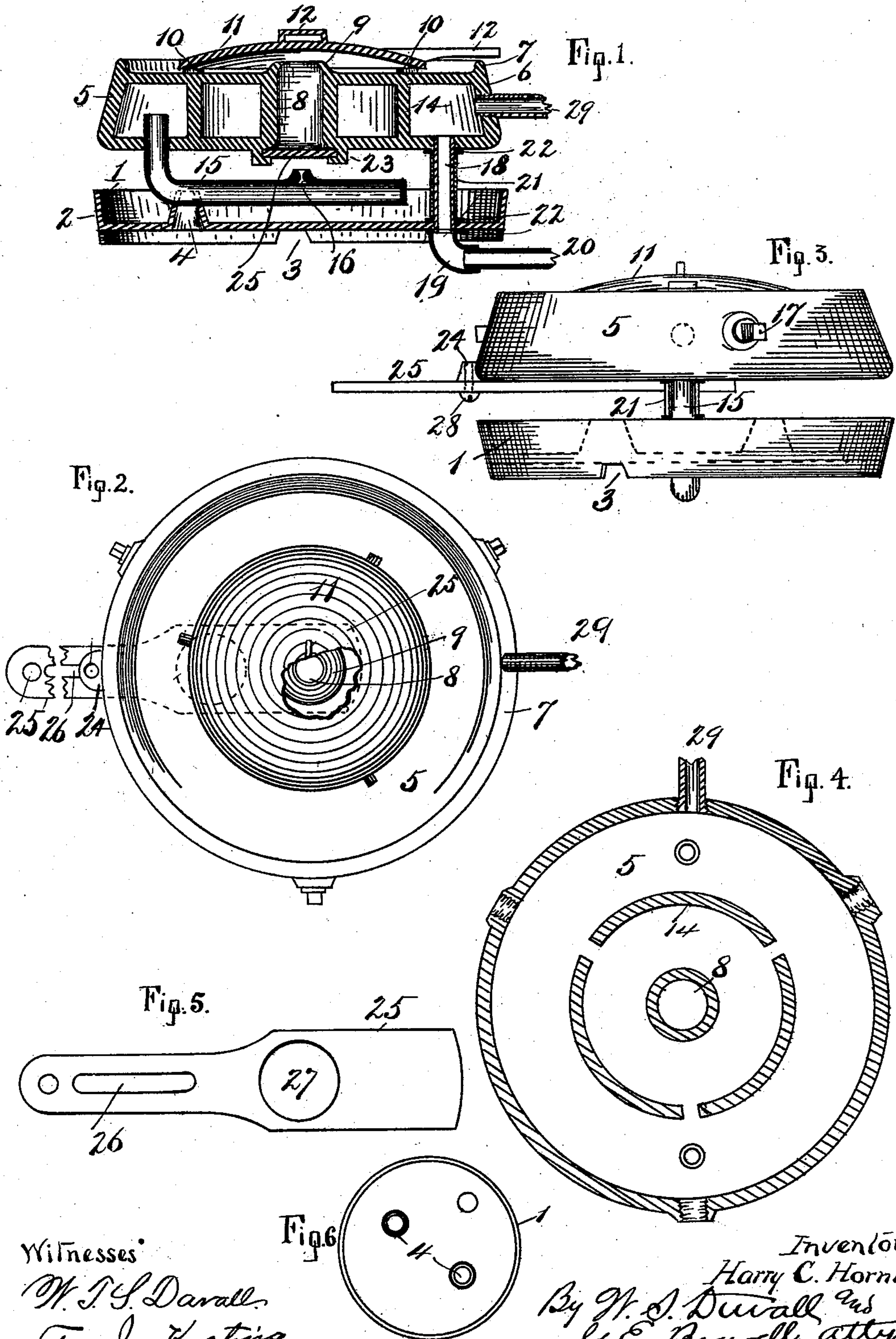


(No Model.)

H. C. HORNISH.
OIL BURNER.

No. 533,899.

Patented Feb. 12, 1895.



Witnesses

W. J. S. Darvall
T. J. Keating

Fig. 6

Inventor
Harry C. Hornish.
By W. J. S. Darvall and
H. E. Bourdell, attys.

UNITED STATES PATENT OFFICE.

HARRY C. HORNISH, OF PEORIA, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE OIL GAS HEATING COMPANY, OF SAME PLACE.

OIL-BURNER.

SPECIFICATION forming part of Letters Patent No. 533,899, dated February 12, 1895.

Application filed September 4, 1894. Serial No. 522,128. (No model.)

To all whom it may concern.

Be it known that I, HARRY C. HORNISH, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Oil-Burners; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form part of this specification.

My invention relates to improvements in that class of burners adapted for the consumption of vaporized oil or a mixture thereof with air, as desired.

The objects and advantages of the invention, together with the novel features thereof will hereinafter appear, and be particularly pointed out in the claims.

Referring to the drawings—Figure 1 is a radial sectional view of a burner constructed in accordance with my invention. Fig. 2 is a plan view of the same, a portion of the burner cap being broken away to expose the burner proper. Fig. 3 is a side elevation of the device. Fig. 4 is a horizontal sectional view of the burner. Fig. 5 is a detail in plan of the slide or cut-off. Fig. 6 is a plan view in detail of the oil-pan.

Like numerals of reference indicate like parts in all the figures of the drawings.

The numeral 1 designates the oil pan, and the same is surrounded by the flange or wall 2, which extends above and below the bottom thereof, as shown. The lower edge of the flange or wall 2 is provided with one or more notches, 3, for the admission of air to the interior of the pan through one or more flanged openings 4, with which the bottom of the pan is provided, said flanged openings preferably being made conical as best shown in Fig. 1 of the drawings.

Above the pan and supported preferably in a manner hereinafter described, is located the retort 5, the same being composed of the usual top and bottom connected by the surrounding vertical, or in this instance, slightly inclined wall 6. The surrounding wall 6 has its upper edge extended above the top of the

retort, thus forming a shell surrounding flange 7. The retort is further provided with a central walled opening 8, extending from the bottom to a point slightly above the top of the retort, and the same constitutes the burner. Between the bottom and top of the retort the burner is cylindrical, but its extended portion, namely, that part that is above the top of the retort is slightly conical or resembles the frustum of a cone, thus forming a reduced orifice 9.

Cast upon the top of the retort and arranged annularly and at intervals are lugs 10, the same being shouldered, thus forming a convenient receptacle for the cap or cover 11. As indicated, the cap or cover 11 is circular and is removably seated upon the shouldered lugs, by which it is supported in a slightly elevated manner or position above the top of the retort, so as to form an annular escape-opening at intervals through which the flame can pass. When viewed in section, it will be seen that the cap or cover is of concavo-convex form, so that its under side does not touch either the retort or burner. The cover is also provided with a central handle 12 and a radial peripheral handle 13, so that it may be readily removed and replaced. Strengthening-webs 14 are also preferably employed, the same serving to connect the top and bottom and being located at intervals between the outer or surrounding wall of the retort and the burner.

An L-shaped burner-pipe 15, passes through the bottom of the retort to a point above the same, and at its lower or horizontal portion extends across and under the lower end of the burner a short distance above the pan 1. At a point below the burner the pipe 15 is perforated and provided with a superficial nipple 16. The lower end of the pipe 15 is closed as shown.

The side or surrounding wall of the retort is tapped at intervals, and the taps are covered or closed by suitable screw-plugs 17.

The bottom of the retort at one side of the center and also the pan at a corresponding point are provided with holes and passing through and slightly beyond the same is a short vertical pipe 18. Connected to the lower extremity of the pipe 18 is the elbow, 19, of

the oil supply-pipe 20. The pipe 18 is encircled or inclosed by a jacket or pipe 21, which is slightly shorter than the pipe 18, and between the inner ends of the pipe 21 and the bottom of the retort and that of the pan, are interposed washers 22. A similar washer is interposed between the upper end of the elbow 19 and the bottom of the pan.

Upon the under side of the retort and at opposite sides of the burner opening 8 is formed a pair of parallel grooved ribs or ways 23, and in line with the same the surrounding wall of the retort has formed thereon a perforated lug 24. Arranged for sliding in these ways is a cut-off plate 25, one-half of which is preferably slightly reduced and provided with a longitudinal slot 26. The inner portion of the plate 25 is imperforate so as to close the lower end of the burner opening 8, when the plate is pushed inward, but between its ends the plate is provided with a circular hole or opening 27 which slightly exceeds in diameter the burner opening of the retort, so that when said plate is drawn out the burner-opening is open. The plate is readily guided in its movements and its movements arrested at proper points by a screw or bolt 28, which passes down through the perforated lug 24 and the slot 26.

When air is to be mixed with the vaporized oil, an air-pipe 29 is let into the side wall of the retort, said pipe leading from a suitable air-supply and like the oil-supply being provided with suitable cut-offs (not shown).

The operation of the burner will be readily understood from the foregoing description, but may be briefly outlined as follows: Oil is first admitted to the retort in a sufficient quantity to overflow through the burner pipe 15 into the pan 1, after which the supply of oil is temporarily cut off and the oil in the pan ignited. The flame is diffused over the bottom of the retort, thus heating and vaporizing the oil contained therein, after which the cut-off or slide 25 is opened or pulled out and the oil-supply opened up, as is also the flow of air when the latter is used. The flame is of course regulated by the amount of oil admitted.

Having described my invention, what I claim is—

1. In an oil-burner, the retort having a mix-

ing-chamber extending above the same, said chamber having its extended portion only constricted, combined with a cap having its center directly over and in close proximity to the upper end of the chamber, substantially as specified.

2. In an oil burner, the retort having a central burner having a horizontal discharge and a circumferential vertical flange surrounding the same and terminating at or above the line of discharge, substantially as specified.

3. In an oil-burner, the combination with a retort having a central mixing-tube, an outer vertical flange surrounding said tube, and a series of intermediate shouldered lugs, arranged on the retort and between the tube and flange and having their seats below the latter of a removable cap or cover seated on the lugs, substantially as specified.

4. In an oil-burner, the combination with a retort having a central walled mixing-chamber, below the same a pair of parallel ways and in line therewith a perforated lug, of a sliding cut-off plate mounted in the ways and extending under the perforated lug, said plate having a longitudinal slot agreeing with the perforation in the lug and between its ends an opening, and the bolt passing through the slot and perforated lug, substantially as specified.

5. In an oil burner, the combination with a retort, the bottom of which is provided with an opening, of a subjacent pan having a corresponding opening, a pipe passing through these openings, an elbow-section connected to the lower end of the pipe below the pan, a supply-pipe connected to the elbow-section, a jacket-pipe surrounding the pipe connecting the pan and retort and slightly shorter than the same, and washers interposed between the ends of the jacket-pipe and the bottoms of the retort and pan and the bottom of the latter and elbow-section, substantially as specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

HARRY C. HORNISH.

Witnesses:

L. A. HOVEY,

GEO. E. BOURELL.