

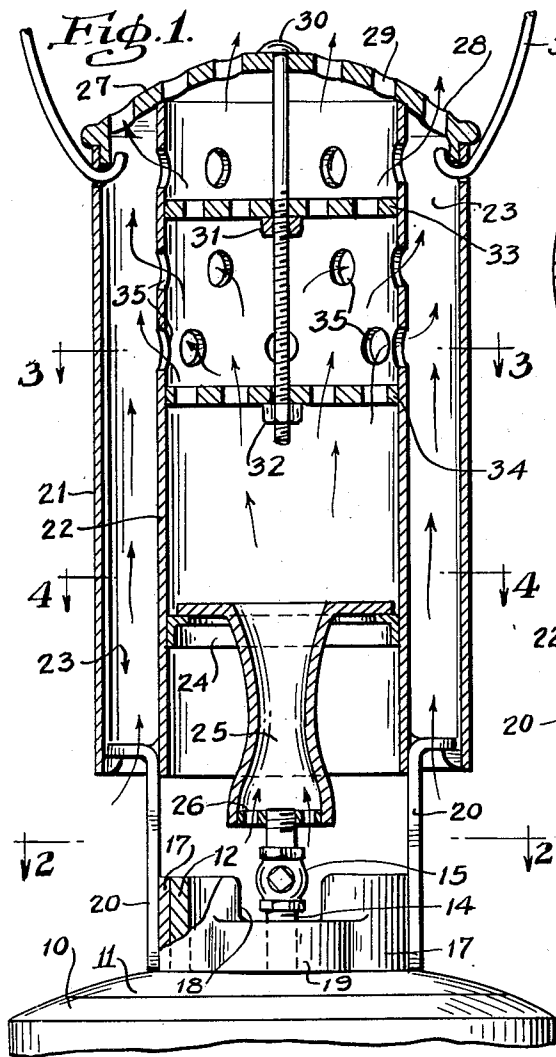
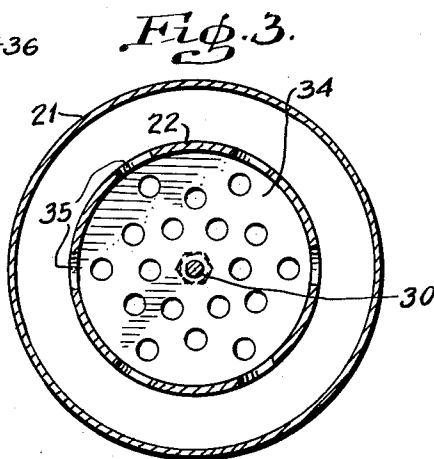
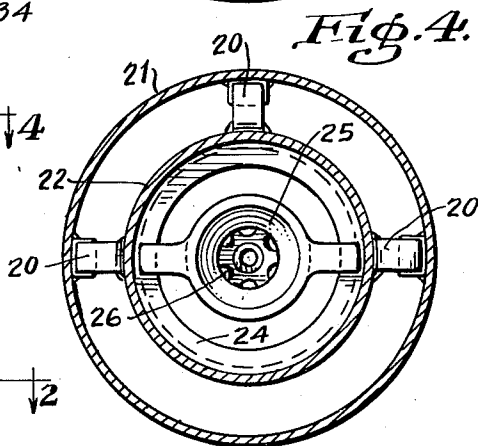
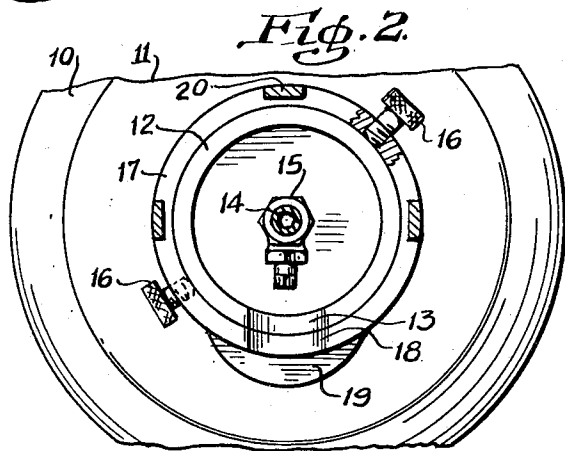
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PORTABLE HEATER

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PORTABLE HEATER

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3 Claims. (Cl. 126—93)

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My invention relates to portable heaters of the type utilizing liquid gas as fuel, and among the principal objects of my invention are, to provide a heater of simple, compact structure, capable of being conveniently moved or carried from one point to another and which may be economically and effectively utilized for heating more or less limited areas, for instance, small rooms, poultry incubators and brooders, milking sheds, private garages, cubicles, small conservatories and the like.

My improved heater has been found particularly advantageous in affording comfort to workmen who, during cold and inclement weather are obliged to work on the platforms or staging located on wire supporting poles adjacent junction boxes, transformers and other overhead electric equipment and who, for their protection and comfort, frequently utilize tarpaulins or the like in erecting small tentlike enclosures over and around the equipment and adjacent working space.

With the foregoing and other objects in view, my invention consists in certain novel features of construction and arrangement of parts which will be hereinafter more fully described and illustrated in the accompanying drawing, in which:

Fig. 1 is a vertical section taken through the center of a heater constructed in accordance with my invention.

Fig. 2 is a horizontal section taken on the line 2—2 of Fig. 1.

Fig. 3 is a horizontal section taken on the line 3—3 of Fig. 1.

Fig. 4 is a horizontal section taken on the line 4—4 of Fig. 1.

Referring by numerals to the accompanying drawing which illustrates a preferred embodiment of my invention, 10 designates a conventional liquid gas fuel tank on top of which is secured a disc 11 from which projects upwardly a circular wall 12 provided in its upper portion with a notch 13.

Projecting upward from the center of disc 11 is a short gaseous fuel duct 14 provided with a valve 15, the stem of which is located directly inward from notch 13.

Removably seated on wall 12 and clamped thereto by set screws 16 is a ring 17 having a notch 18 in registration with notch 13 and to reinforce said ring at its weakest point; viz, that portion below notch 18, a transverse lug or rib 19 is formed on the outer face of said ring below said notch. This reinforcement minimizes tendency of ring 17 to break across notch 18 due to

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abnormal strains resulting from sudden temperature changes which develop as the burner control valve 15 is turned on and off. Secured to ring 17 are the lower ends of posts 20, the upper ends of which are secured to the lower ends of inner and outer concentric walls of sheet metal 21 and 22 respectively, which are spaced apart to form an annular flue 23.

Removably supported by a ring 24 within the lower portion of cylinder 22 is a Venturi burner tube 25, the lower end of which receives the upper end of fuel duct 14 and formed in the bottom of said tube around said duct are air inlet apertures 26.

The upper ends of cylinders 21 and 22 are closed by a plate 27 provided adjacent its edge with apertures 28 which serve as vents for air flowing upwardly between said cylinders and other apertures 29 inwardly from said apertures 28, provide vents for the heated air flowing upwardly from the burner tube.

Depending from the center of plate 27 is a bolt 30, on the threaded lower portion of which are mounted nuts 31 and 32 which support in spaced relation, an upper baffle plate 33 and lower baffle plate 34, both perforated, so as to permit restricted upward flow of heated air through inner cylinder 22. Apertures 35 are formed through the wall of cylinder 22, between baffle plates 34 and 33 also between the latter and top plate 27.

Pivotaly connected to the upper end of cylinder 21 is a bail 36. In service liquid gas flows upward through duct 14 and open valve 15 and mixed with air flowing through apertures 26, burns in Venturi tube 25. Heated air and products of combustion flow upward through cylinder 22, perforated baffle plates 34 and 33 and discharge from the furnace through apertures 29, with a certain amount of the heated air and products of combustion discharging through apertures 35 into flue 23 and thence through apertures 28 in top plate 27. This flow of heated air through the upper portion of flue 23, induces a flow of atmospheric air upwardly through the flue, thus providing, in effect, an effective degree of insulation for the heat in the air flowing upward from burner 25, through inner cylinder 22.

Thus, it will be seen that I have provided a portable heater that is simple in structure, inexpensive of manufacture and very effective in performing the functions for which it is intended.

Minor changes in the size, form and construction of the various parts of my improved portable heater may be made and substituted for those herein shown and described, without departing

3 from the spirit of my invention, the scope of which is set forth in the appended claims.

I claim as my invention:

1. In a portable heater, a fuel tank, a valved outlet duct leading from the top of said tank, a ring secured on the tank around said duct, a frame detachably mounted on said ring, concentric spaced circular walls supported by said frame, a burner mounted on said duct and disposed within the lower portion of the inner one of said circular walls, a perforated cover plate on the upper ends of said walls, a threaded rod suspended from the center of said cover plate, nuts on said rod and spaced perforated baffle plates supported by said nuts within the upper portion 10 of said inner wall.

2. The portable heater set forth in claim 1 and the inner one of said circular walls being pro-

vided with perforations between said baffle plates.

3. The portable heater set forth in claim 1 and the inner one of said circular walls being provided with perforations between the upper baffle plate and said cover plate.

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