July 23, 1935. B. W. TULLIS 2,008,883

LIQUID HYDROCARBON FUEL BURNING DEVICE

Filed Dec. 1, 1933

Fig 1

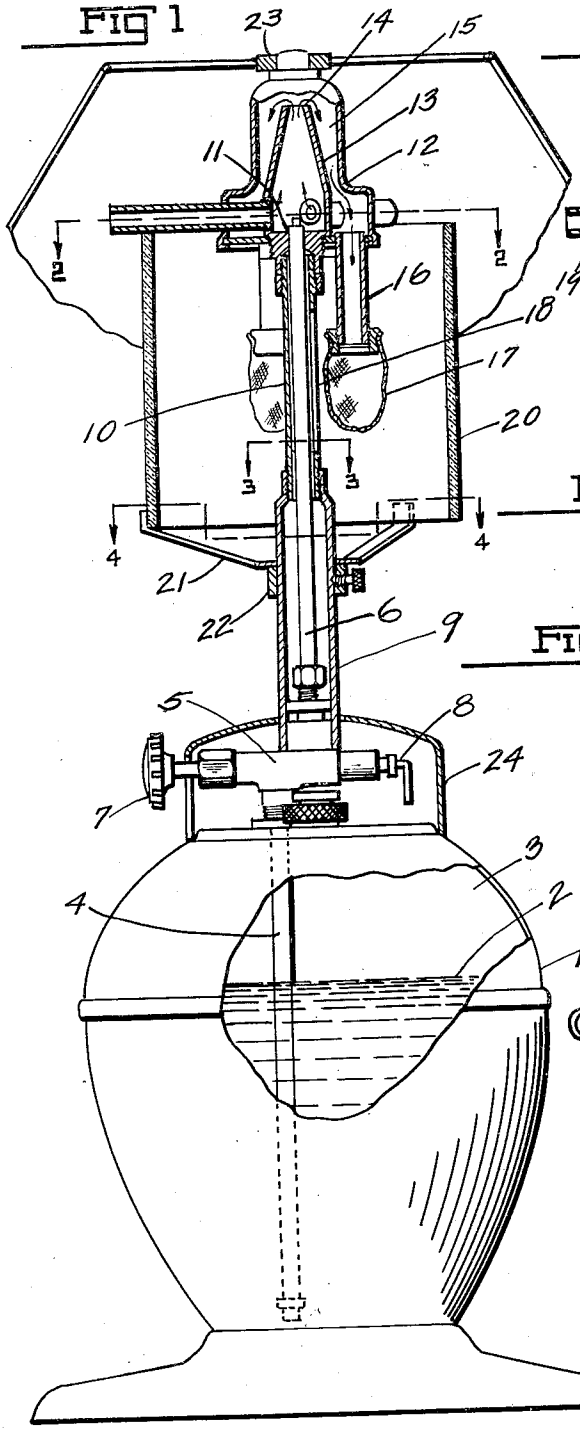


Fig 2

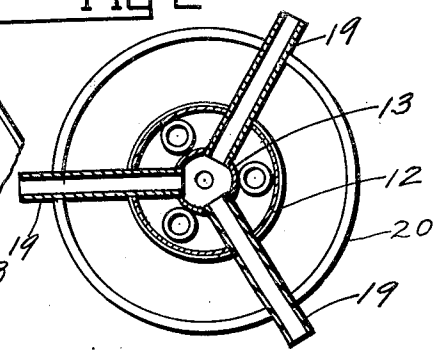


Fig 3

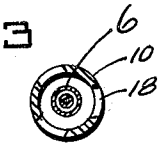


Fig 4

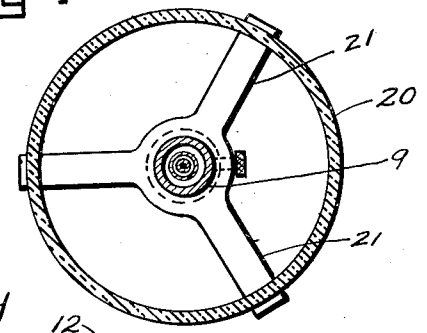
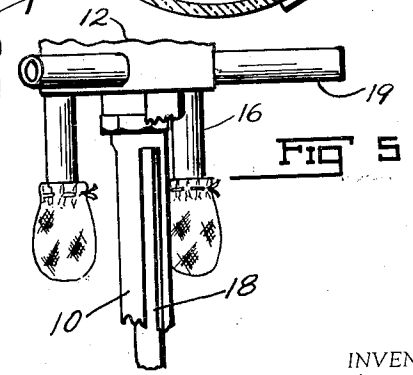


Fig 5



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2,008,883

LIQUID HYDROCARBON FUEL BURNING DEVICE

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6 Claims. (Cl. 67—50)

This invention relates to liquid hydrocarbon fuel burning devices but more particularly to a lamp or lantern. The primary object of the invention is to provide an improved burner construction and support therefor and the novelty of the invention will be apparent by reference to the following description in connection with the accompanying drawing in which:

Figure 1 is a view partly in elevation and partly in section of a lamp constructed in accordance with my invention.

Figure 2 is a cross sectional view on line 2—2 of Figure 1.

Figure 3 is a cross sectional view on line 3—3 of Figure 1.

Figure 4 is a cross sectional view on line 4—4 of Figure 1, and

Figure 5 is a fragmentary view of the burners and its support.

Referring now to the drawing by numerals of reference, 1 designates a font to contain liquid hydrocarbon fuel 2 having an air space 3 so that the fuel can be put under air pressure in contact therewith thru a filler opening not shown. It is to be understood of course that a pump will supply the air to put the fuel under pressure. Within the font 1 is a supply pipe 4, having its inlet below the liquid level of the liquid in the font. The pipe is connected to a valve body 5 supporting a vaporizing generator 6 so that the valve 7 can be operated to admit fuel to the vaporizing generator. This generator is provided with a tip cleaning needle operated by a handle 8. The construction thus far described was old prior to my invention so I do not make any special claim to it for novelty in this application.

Sleeved upon the vaporizing generator 6 is a tubular standard 9 having a slotted constricted upper portion 10 surrounding an inlet opening 11 in the hollow burner casting 12 through which the tip of the generator projects. Within the burner casting is a Bunsen tube 13 concentric with the opening 11 and having a discharge opening 14 at its upper end to discharge into the mixing chamber 15 of the burner. The mixing chamber carries a plurality of hollow depending mantle supports 16, the mantle 17 being fastened thereto in any appropriate manner so that they will be located adjacent to the slots 18 in the member 10. The mantles heat the vaporizing generator and vaporize the liquid fuel as will be well understood.

The Bunsen is supplied with atmospheric air through the radial air passageways or tubes 19 having their outer ends open to atmosphere and their inner ends discharging into the Bunsen tube. It will be observed that the air passageways of tubes 19 are horizontal, therefore there will be no vertical shadows on the glass globe 20 supported by the spider 21 resting on the collar 22 on standard 9.

The burner casting is provided with a shade support 23 of any approved construction. The tubular member 9 rests upon the valve body 5 so that it can be readily removed carrying with it the burner, the globe support and the shade support. It can be as readily applied. The standard and burner may be easily constructed and assembled so that the cost of the lamp is less than it would be if unions and joints were employed to secure the standard to the lamp.

The screen collar 24 is loose on the lamp so it can be raised for the purpose of operating the tip cleaner 8.

What I claim is:

1. In combination with a font to contain liquid hydrocarbon fuel under air pressure in contact therewith, of a valved upstanding vaporizing generator connected to the font, a removable tube loosely sleeved on the generator and co-extensive therewith and supported independently of the generator, said tube having an enlarged portion in spaced relation with the lower portion of the generator and snugly fitting the generator at a plurality of points above the base thereof, a burner carried by the top of the tube having an opening into which the generator projects, depending mantle supports carried by the tube to support the mantles adjacent to open portions of the upper portion of the tube so that heat from the mantles will impinge directly upon the generator and a globe support carried by the large part of the sleeve to support a globe surrounding the mantles.

2. In combination with a font to contain liquid hydrocarbon fuel under air pressure in contact therewith, of a fitting on the top of the font, a fuel supply tube depending from the fitting and extending below the liquid level in the font, an upstanding, vaporizing generator carried by the fitting in communication with the depending fuel tube, a removable burner supporting tube loosely sleeved on the generator and resting on the fitting whereby it is supported independent of the generator, a burner at the top of the burner carrying tube having mantle supports adjacent to the upper portion of the burner carrying tube to supply heat through openings in the burner carrying tube to the generator and a globe support carried by the burner carrying tube surrounding the mantle supports.

3. In combination with a font to contain liquid hydrocarbon fuel under air pressure in contact therewith, of a valved fitting on the font, a liquid supply tube communicating with the fitting and extending into the font, a vaporizing generating tube in upstanding relation with the fitting to receive fuel from the fuel tube, a removable burner supporting tube loosely sleeved on the vaporizing generator tube and supported by the fitting independent of the vaporizing generator tube, said burner supporting tube having openings near the upper end of vaporizing generator, a burner carried by the last named tube having mantle supports with discharge ends adjacent to the openings, a globe support carried by the last named tube to support a globe surrounding the mantles and a shade support carried by the burner.

4. In combination with a font to contain liquid hydrocarbon fuel under air pressure in contact therewith, of a fitting on the font, a valved upstanding, vaporizing generator connected to the fitting, a removable slotted tube loosely sleeved on the generator and supported wholly by the fitting, a burner carried by said tube having mantle supports adjacent to the slots, a globe support carried by the tube below the upper end thereof and a shade support carried by the burner.

5. A removable tube to be loosely received upon an upstanding generator of a liquid hydrocarbon fuel burning device, said tube having an enlarged lower portion and a constricted upper portion provided with openings and a burner at the top of the tube, having depending mantle carrying supports to support mantles adjacent to openings in the constricted portion of tube.

6. In combination with a font to contain liquid hydrocarbon fuel under air pressure in contact therewith, of an upstanding vaporizing generator connected to the font, means for delivering fuel from the font to the vaporizing generator and a unitary structure comprising a slotted tube loosely sleeved on the generator and readily removable therefrom, said slotted tube being supported by the font independently of the generator, a burner carried by said tube having mantle supports adjacent to the slots and a globe support carried by the tube below the upper end thereof.

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