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VAPORIZING GENERATOR

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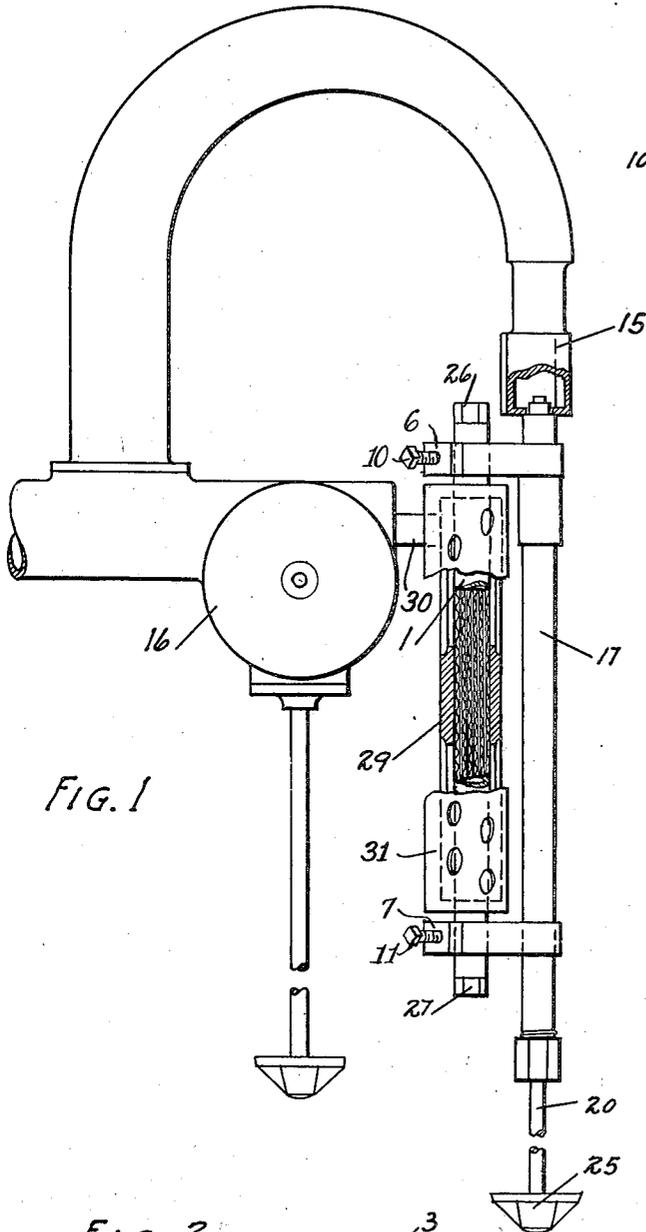


FIG. 1

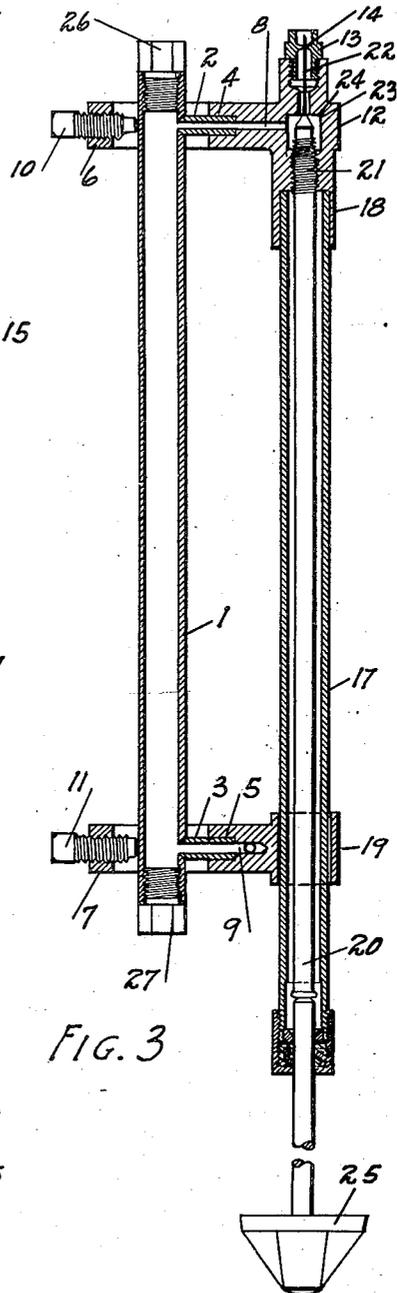


FIG. 3

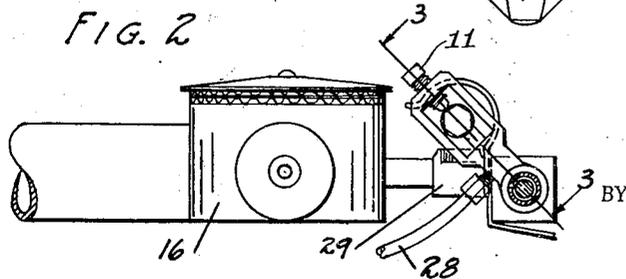


FIG. 2

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# UNITED STATES PATENT OFFICE

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## VAPORIZING GENERATOR

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### 1 Claim. (Cl. 158—53)

This invention relates to vaporizing generators for liquid hydrocarbon fuel burning devices and it is primarily intended to burn gasoline or similar fuel. Vaporizing generators frequently carbonize, sometimes to such an extent that they are unfit for use and they have to be replaced at considerable inconvenience so I have provided a generator and a valve associated therewith which will reduce the liability of excessive carbonizing adjacent to the jet orifice which supplies the vapor to the burner and I have also provided means whereby the carbon can be easily removed. The novelty of the invention will be understood by reference to the following description in connection with the accompanying drawing in which

Figure 1 is a view partly in plan and partly in section of a burner assembly and a generator constructed in accordance with my invention,

Figure 2 is an end view the valve stem and guide being shown in section, and

Figure 3 is a longitudinal, sectional view on the line 3—3 of Figure 2.

The vaporizing generator 1 shown as comprising a straight tube 1 with nipples 2 and 3 near its respective ends, the nipples being received in seats 4 and 5 in the yoke shaped members 6 and 7. The yoke shaped members are provided with passageways 8 and 9 and the nipples are held in seated position by the set screws 10 and 11 as will be understood by reference to Figure 3. The yoke shaped member 6 carries a valve body 12 with a tip 13 having an orifice 14 which discharges into the burner manifold 15 which supplies fuel to the burner 16 and to any other burners connected to the manifold. The valve body carries a guide tube 17 which is fastened at one end to the valve body 12 and the other end to the yoke 7 as at 18 and 19. The guide tube 17 supports a valve stem 20 which has a threaded portion 21 with a cleaning needle 22 adapted to project through the tip orifice 14 to clean it. The valve stem also carries a valve 23 to seat on the seat 24 of the valve body 12. The valve stem is operated by a hand wheel 25. The two ends of tube 1 are normally closed by plugs 26 and 27 which are in threaded engagement with the tube 1. The passageway 9 is connected to a suitable source of fuel by means of a pipe 28 the fuel being under pressure. The fuel is forced up in to

the passageway 9 into the tube 1 which constitutes a retort where the raw gasoline or other fuel is converted into vapor and the vapor is permitted to flow through passageway 8 out through the tip orifice when the valve 23 is unseated. Therefore, no vapor is intended to flow into the tube 17 this tube being merely for the purpose of guiding the valve stem. The retort 1 is held adjacent to a sub-burner 29 which heats it to vaporizing temperature. The manifold 15 connects with the sub-burner 29 at 30 and the sub-burner is provided with a baffle 31 to keep heat away from the top of the stove and directed toward tube 1. When the fuel is vaporized the valve 23 is unseated so that the vapor can flow through the tip orifice, the needle at this time being withdrawn from the tip orifice. Any carbon accumulation in tube 1 can be readily removed by taking out the plugs 26 and 27 and cleaning the tube with any suitable tool. If the tube 1 deteriorates or is rendered unfit for use the set screws 10 and 11 can be backed up and the tube can be taken out and a new one substituted without disturbing the valve and its associated parts. This arrangement cuts down the cost of repairs and tends to increase the life of the generator assembly.

I am aware that generators have been extensively used prior to my invention but I am not aware that prior to my invention that a vaporizing retort has been employed which permits vapor to flow into the valve body in advance of the valve so that danger of clogging of the valve body will be minimized.

What I claim is:

A device of the class described comprising a valve body having a tip orifice and a valve seat in the rear of the tip orifice, a valve guide connected to the valve body, a valve stem in the guide in threaded engagement with the valve body having a valve to engage the seat and a fuel vaporizing retort having at one end an outlet communicating with the valve body and means for removably connecting the retort to the valve body, said means comprising a yoke and a set screw carried by the yoke to hold the retort in operative position.

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