

Sept. 11, 1934.

M. K. WEIGEL

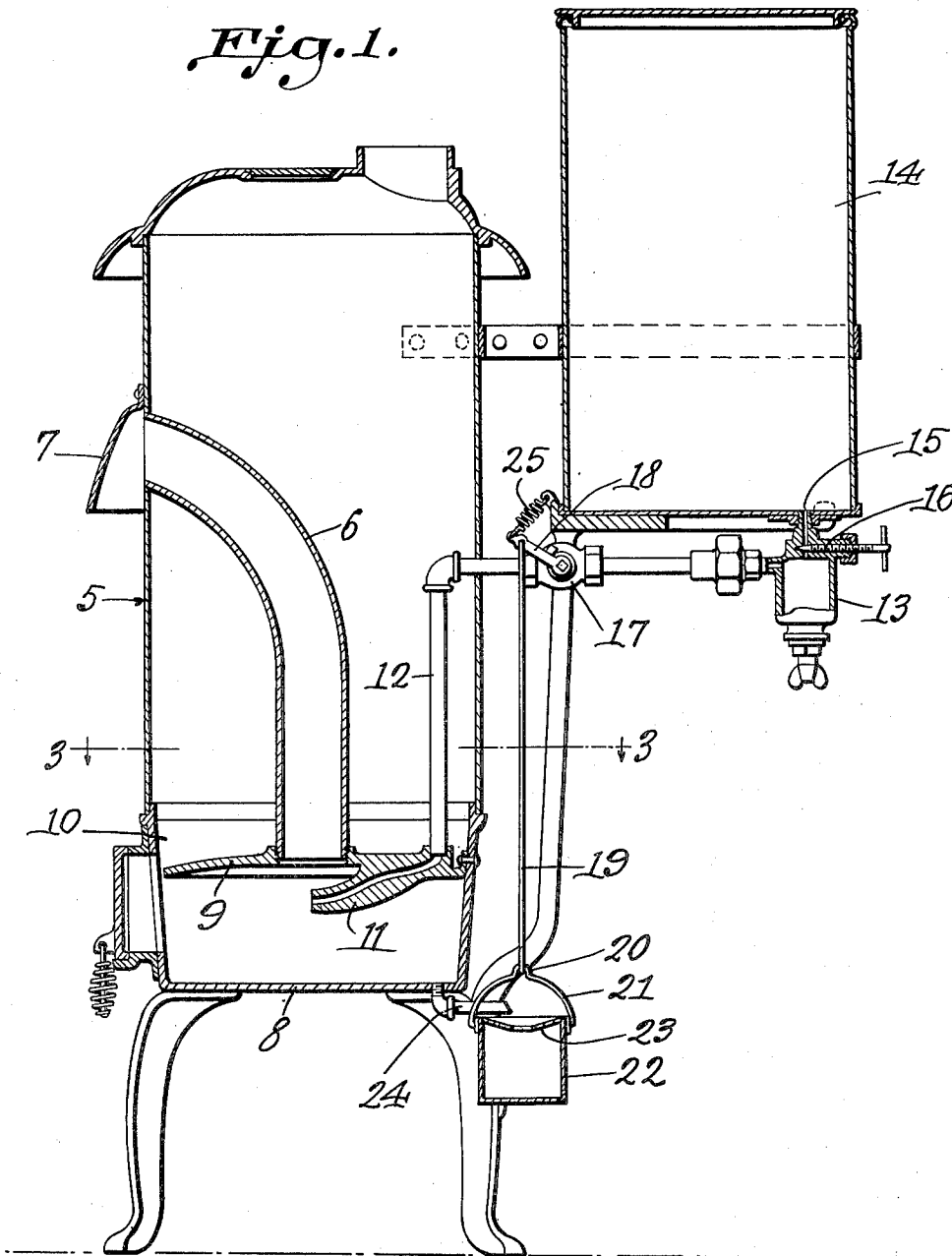
1,973,239

OIL HEATER

Original Filed Oct. 6, 1930

2 Sheets-Sheet 1

Fig. 1.



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Fig. 2.

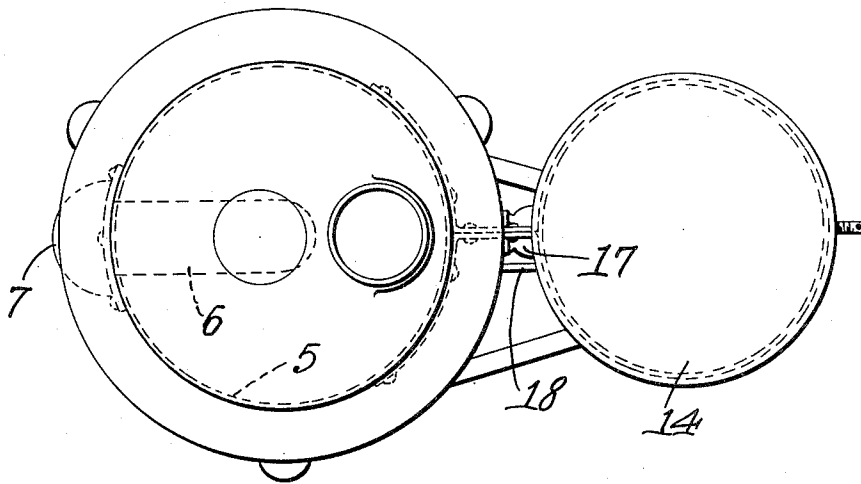


Fig. 3.

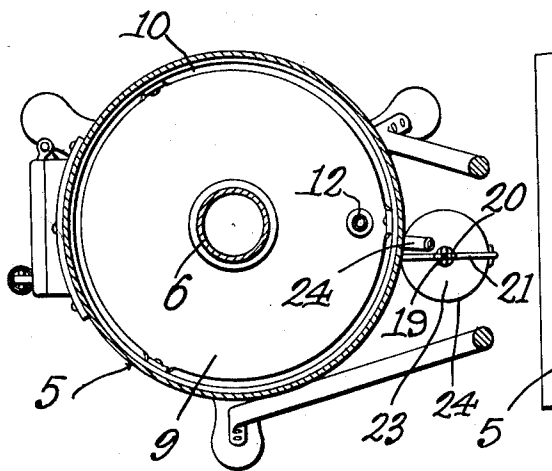
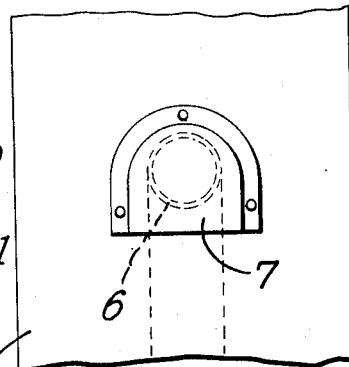


Fig. 4.



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UNITED STATES PATENT OFFICE

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OIL HEATER

Max Karl Weigel, Chicago, Ill., assignor to
Charles W. HadleyApplication October 6, 1930, Serial No. 486,835
Renewed February 12, 1934

3 Claims. (Cl. 158—4)

This invention relates to heating stoves, and more particularly to heating stoves of the oil burning type, designed primarily for use in heating garages, an important object of the invention being to provide a heating stove which will direct the heat therefrom, downwardly to the floor of the garage or building in which the stove is positioned.

Another object of the invention is to provide a stove so constructed that a cheap grade of oil may be used as a fuel, to the end that the cost of operation of the stove will be reduced to the minimum.

A further object of the invention is to provide a valve for controlling the passage of the oil from the supply tank to the burner, novel means being provided for automatically closing the valve to prevent the flow of oil to the burner, should the blaze become accidentally extinguished.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawings:

Figure 1 is a vertical sectional view through a stove constructed in accordance with the invention.

Figure 2 is a plan view thereof.

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

Figure 4 is a fragmental front elevational view of the stove.

Referring to the drawings in detail, the body of the stove is indicated generally by the reference character 5, and as shown is formed with an opening in the front thereof into which the upper end of the pipe 6 extends, the opening being guarded by the hood 7, secured to the body portion of the stove.

The pipe 6 is curved and extends downwardly to a point near the bottom 8 of the stove, the lower end of the pipe being secured within an opening formed centrally of the plate 9 that is secured within the fire-box 10 of the stove. Thus it will be seen that due to this construction, air will be drawn downwardly through the pipe 6 and discharged at a point below the plate 9, to aid combustion.

Formed integral with the plate 9, is a nozzle 11 through which oil is discharged, the nozzle being

of a length to extend to a point directly below the lower end of the pipe 6, with the result that air entering the fire-box through the pipe 6, will contact with the oil where it discharges from the nozzle 11.

Oil is fed to the nozzle 11 through the pipe 12 which extends an appreciable distance within the body portion so that oil passing through the pipe 12 will be heated prior to its passage to the nozzle 11.

The pipe 12 extends laterally where it connects with the feed chamber 13 which in turn is in communication with the supply tank 14, through the bore 15 of the chamber 13. A valve 16 is provided to control the passage of oil from the tank 14 into the chamber 13. A valve 17 operates in the pipe 12 and is designed to control the passage of oil through the pipe 12, to the nozzle 11.

Connected with the valve 17, is an arm 18 to which the rod 19 is connected, the rod 19 being provided with a hook at its lower end to be hooked into the offset portion 20 of the bail 21 which is secured to the receiver 22, the receiver being provided with a funnel-like top 23 to direct oil into the receiver 22.

The reference character 24 designates a pipe that leads from the fire-box to discharge oil onto the funnel-like top 23, should the burner blaze be accidentally extinguished, with the result that the weight of the oil in the receiver 22 will draw the arm 18 downwardly, cutting off the passage of oil to the nozzle 11.

The spring 25 which connects with the arm 18, acts to normally hold the valve 17 in its open position.

The operation of the machine is as follows:

Oil is discharged into the fire-box 10, which oil is ignited, the flames passing around the plate 9 to heat the fire-box. The construction of the fire-box and plate is such that the blaze or flames will be directed downwardly against the bottom of the fire-box, causing the heat from the flames to be directed downwardly against the floor of the building in which the stove is positioned.

I claim:

1. An oil burning garage heating stove, comprising a casing, a flue for carrying off products of combustion from the casing, a heat deflecting plate fitted within the casing and disposed near the bottom of the casing and spaced therefrom, said plate being slightly spaced from the wall of the casing to allow an upward draft within the casing, a fuel nozzle supported by the plate and inclined downwardly and inwardly from the periphery of the plate, and adapted to direct the

burning mixture at said nozzle downwardly into the space between the plate and bottom, thereby directing heat to the floor of the building in which the burner is positioned, and means for supplying
5 air to the burner.

2. An oil burning stove comprising a casing, a flue for carrying off products of combustion from the casing, said casing having a bottom, a plate fitted within the casing and disposed adjacent to
10 the bottom of the casing, said plate having a central opening, a pipe having its upper end communicating with the atmosphere, and adapted to direct air downwardly through the casing and central opening of the plate to a point adjacent to
15 the bottom of the casing, a fuel nozzle formed integral with the plate and inclined downwardly therefrom, the discharge end of the nozzle terminating at a point directly under the lower end of the pipe, said pipe directing a draft of air
20 across the discharge end of the nozzle, breaking

up the fuel from the nozzle, and said plate directing the heat of combustion downwardly onto the bottom of the casing.

3. An oil burning stove comprising a casing having a bottom and having a flue for carrying off
30 products of combustion, a plate supported within the casing near the bottom, providing a combustion chamber directly above the bottom of the casing, said plate having an opening formed centrally thereof, a pipe extending through the wall
35 of the casing communicating with the atmosphere, one end of the pipe extending into the central opening to direct air to the combustion chamber, a fuel nozzle being inclined downwardly from the plate, the discharge end of the fuel
40 nozzle lying directly under the lower end of the pipe to direct the burning mixture downwardly to the bottom of the casing.

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