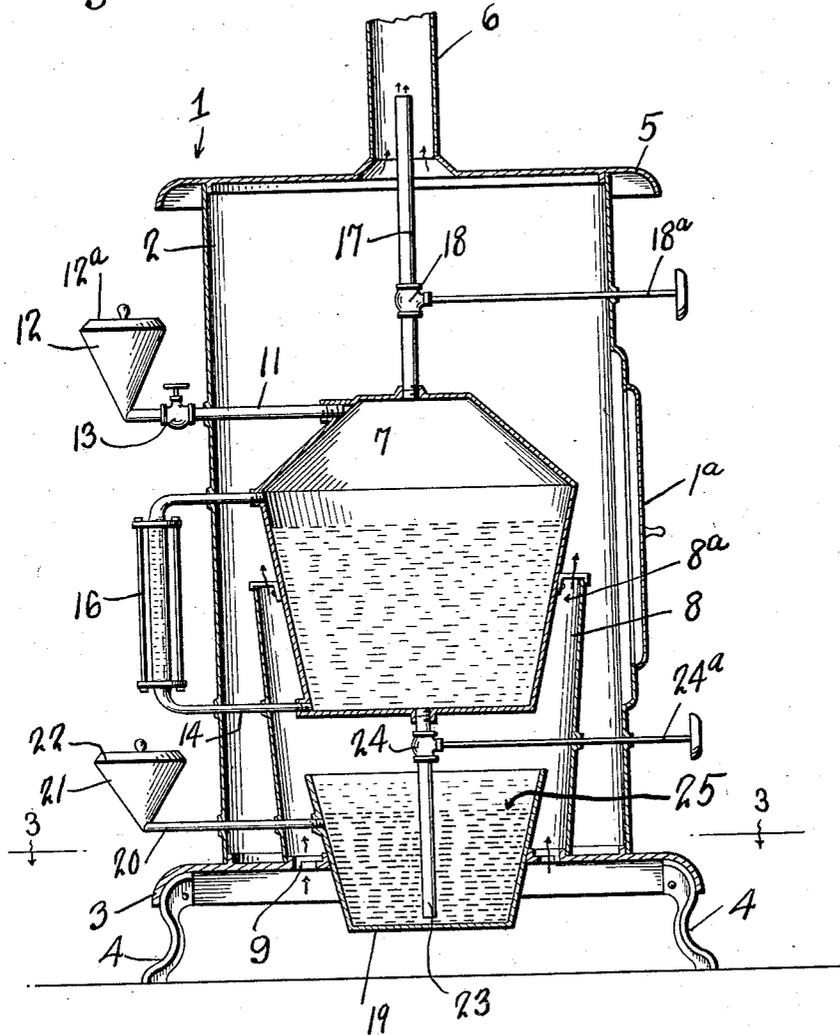


H. B. HEMPHILL.
PETROLEUM OIL STOVE.
APPLICATION FILED DEC. 27, 1918.

Patented June 24, 1919.
2 SHEETS—SHEET 1.

1,307,583.

Fig. 1.



Inventor

Henry B. Hemphill

Witness

L. B. James

By

John P. Duffie
Attorney

UNITED STATES PATENT OFFICE.

HENRY B. HEMPHILL, OF ELDORADO, ILLINOIS.

PETROLEUM-OIL STOVE.

1,307,583.

Specification of Letters Patent. Patented June 24, 1919.

Application filed December 27, 1918. Serial No. 268,489.

To all whom it may concern:

Be it known that I, HENRY B. HEMPHILL, a citizen of the United States, residing at Eldorado, in the county of Saline and State of Illinois, have invented certain new and useful Improvements in Petroleum-Oil Stoves, of which the following is a specification.

This invention relates to improvements in petroleum-oil stoves or burners.

The invention has for its object to provide for thoroughly and effectively promoting combustion; securing practically complete combustion; producing a purifying action in the oil, all sediment and non-combustible matter precipitately settling to the bottom of the stove or burner; and to effect these results in a simple, expeditious and economical manner.

With the foregoing and other objects in view, which will appear as the nature of the invention is more fully disclosed, the same consists in the novel features of construction, combination and arrangement of parts illustrated in the accompanying drawings and more particularly pointed out in the appended claims.

In the drawings:—

Figure 1 is a sectional elevation of my improved petroleum oil stove or burner.

Fig. 2 is a plan view thereof, partly broken away.

Fig. 3 is a horizontal section of the same, taken on the line 3—3 of Fig. 1, looking in the direction of the downwardly pointing arrows.

Referring to the drawings for a more particular description of the invention and which drawings are for illustrative purposes only and are therefore not drawn to scale, the device comprises a stove or burner, generally designated by the reference-character 1, consisting of a preferably cylindrical casing or shell 2 provided with a door 1^a and superposed or positioned upon a suitable base 3, mounted upon legs 4 as usual, said casing having applied to its upper end a top-plate or cap 5 with a preferably centrally-attached smoke-pipe 6.

About centrally arranged within the casing 1 is a holder or container 7 for the reception of the petroleum-oil, being preferably of the general construction as shown or otherwise and positioned within the upper portion of another separate container 8 suitably supported with the casing 1, upon

the base 3, air-ingress-openings 9 being provided in the latter, communicating with the interior of said container 8, which is bottomless, only in so far as said base serves as a bottom therefor.

The holder 7 is held in place in the container 8 and spaced, as at 8^a, therefrom, by brackets 10 extending from said holder and resting upon the upper edge of said chamber, the space 8^a thus provided, admitting the passage of the air, admitted through the openings 9 to the interior of the casing 1 after having encompassed the holder, said air previously having encompassed the fire pot, later described. The container or holder 7 has piped thereto, as at 11, a filling funnel 12, said pipe being provided with a manually operated valve 13 for closing off communication with the interior of the holder, from the funnel or outside, after supplying oil to the holder, said funnel having a closure 12^a. Said holder has also piped thereto, as at 14, a tubular observation or sight glass, provided for ascertaining the level or height of the oil or contents of the holder, a suitable guarding metallic frame 16 being suitably provided around said sight-tube.

Extending from the top of the holder 7 and into the smoke-exit 6 is a pipe 17 for the escape of the volatized products from said holder, said pipe being provided with a vent valve 18, controlled by a hand wheel or disk equipped stem 18^a arranged for convenient operation.

Positioned in the base 3 of the casing 1, is the fire-pot 19, preferably of pan-like form, with its upper flared portion extending into the chamber 18 adjacent the bottom of the holder 7, said pan or pot having piped thereto, as at 20, a filling funnel 21 having a closure 22. Depending from the bottom of the holder 7 is a pipe 23, extending into the pan or pot 19, nearly to its bottom, for delivering oil thereinto from the holder, said pipe being provided with a valve 24, the extended stem 24^a of which is provided with a hand wheel or disk for convenient actuation. The supply pot or pan is supplied with both oil and water, the water-level being indicated at 25. It is to be noted that the device or stove is automatic in operation after once reaching the hot stage.

In operation, the holder 7, after being filled with the petroleum or oil and the pan or pot 19 suitably supplied with water as indicated, the valve 13 is closed, as is also

valve 18, the valve 24 being already closed, and thus all the exits are now closed. No oil, of course, will now enter the pan or fire pot; the valve 24 is now opened, yet no oil will enter the pan or fire pot, but upon opening the valve 18, which will properly vent the holder, the oil will then flow through the pipe 23 and enter the pan or fire pot and pass upwardly through the water therein, the oil flow being regulated according to the quantity necessary for heating purposes by opening the valve 24, after which this valve is closed and also valve 18.

A portion of saturated cotton-waste is put in the pan or fire pot and duly lighted, when combustion of course will at once take place and the oil will burn freely, and soon the flame will assume a vivid whiteness, producing great heat, this being the resultant of the burning oil heating the water and liberating the necessary oxygen to that end. Also from the action the oil will be purified and all sediment and non-combustible matter will precipitately settle to the bottom of the pan or fire box. After the oil in the holder becomes hot, it generates a pressure therein, which delivers the oil as rapidly as may be desired, passing down through the pipe 23 and thence upwardly through the water to the oil-line, thereby increasing the intensity of the combustion-action of the oil or fuel which may be readily regulated by suitably adjusting the valve 24. As previously indicated, the oil cannot flow downwardly through the discharge pipe 23, when the heat is not on owing to the submergence of said pipes, the valves 13 and 18 being closed all the time, except when refilling the holder 7, and the oil being held in suspension by reason of the resultant vacuum which may otherwise be overcome only by the pressure of the heat or the burning action of the oil. It is also noted that in the use of my burner or stove, the consumption of oil and water is about in equal quantities, finding in practical use that a gallon of water and a gallon of oil, each, is consumed in about the same time.

Various changes and modifications may be made as to the detailed construction and arrangement of parts without departing from the scope of the appended claims.

Having described my invention, what I

claim as new and desire to secure by Letters Patent, is:—

1. A stove or burner of the type described, including a holder separately positioned within the casing of the stove or burner, a fire-pot arranged with its upper portion within said casing and a tubular element depending from and communicating with said holder and extending into and terminating at its lower end adjacent the bottom of said fire-pot; said tubular element being adapted to deliver the contents of said holder into said fire-pot and means correlated with said holder and fire pot for producing a vacuum in the tubular element.

2. A stove or burner of the type described, including a holder separately positioned within the casing of the stove, means arranged in said stove-casing for supporting said holder, and a fire-pot with its upper portion arranged within said casing, said holder having a tubular element in communication therewith, at its bottom, and extending into said fire-pot, the lower end of said tubular element terminating adjacent the bottom of said fire-pot and means correlated with said holder and fire-pot for producing a vacuum in said tubular element, said tubular element being adapted to deliver the contents of said holder into said fire-pot.

3. A stove or burner of the type described, including a holder positioned within the casing of said stove, means for supporting said holder within said casing, comprising a bottomless container resting upon the base of said casing, said holder having a vent-valved pipe-outlet at its upper end and a depending pipe opening through its bottom, a fire-pot supported in the base of said stove casing and having piped thereto a supply funnel, said depending pipe having a valve and extending into said fire-pot and terminating at its lower end adjacent the bottom of said fire-pot and adapted to deliver the contents of said holder into said fire-pot, said holder having piped thereto a supply funnel and the pipe of said funnel being provided with a valve.

In testimony whereof I affix my signature.
HENRY B. HEMPHILL.

Attest:

JOHN T. SMITH,
GEORGE W. CLARK.