

F. E. NELSON.
OIL SUPPLY APPARATUS.
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906,735.

Patented Dec. 15, 1908

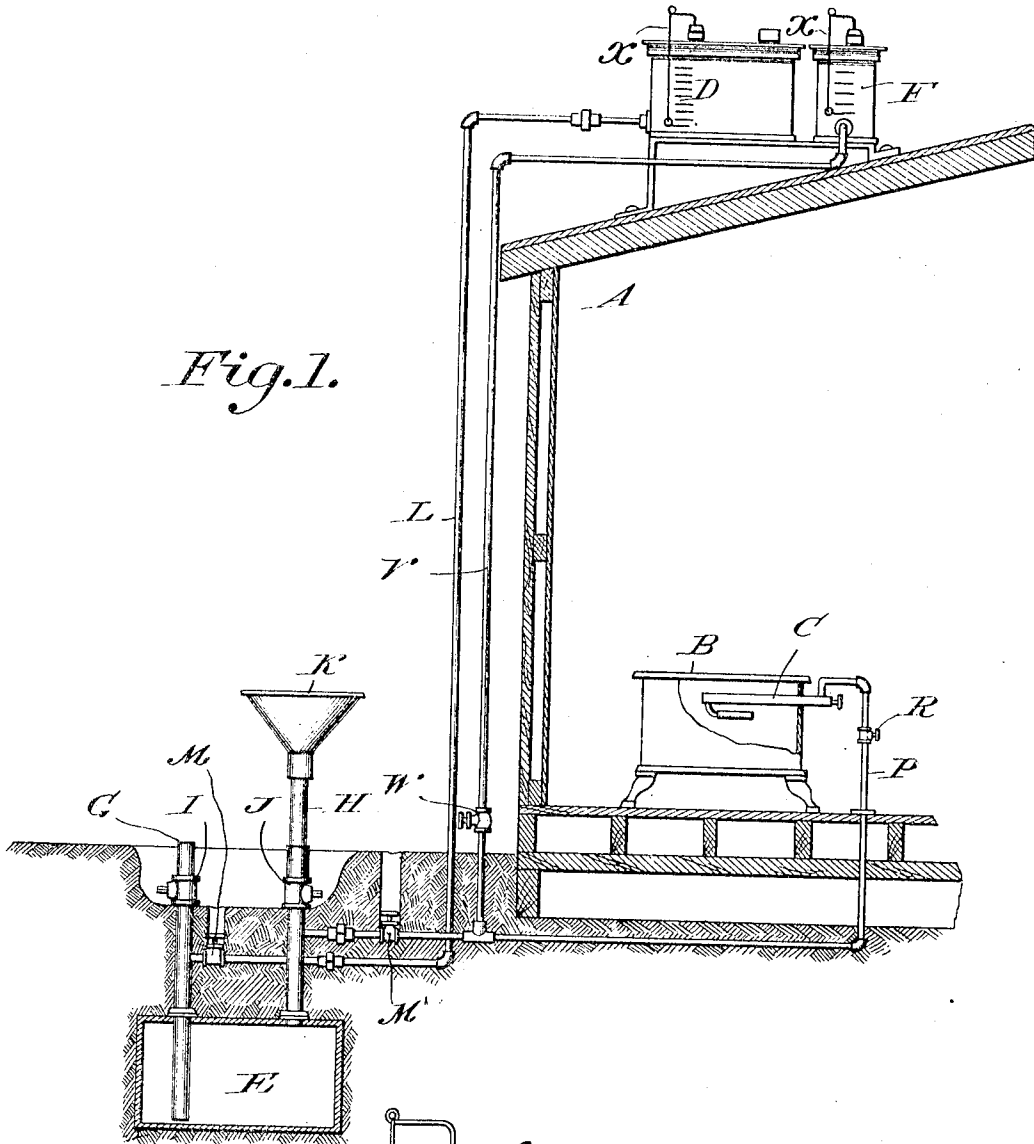


Fig. 1.

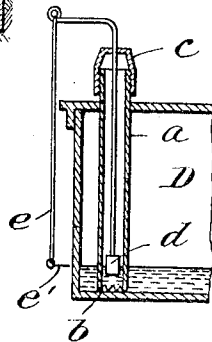


Fig. 2.

Witnesses

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OIL-SUPPLY APPARATUS.

No. 906,735.

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Application filed January 31, 1908. Serial No. 413,629.

To all whom it may concern:

Be it known that I, FRANK E. NELSON, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Oil-Supply Apparatus, of which the following is a specification.

My invention pertains to the supply of oil to hydrocarbon burners; and it has for its object to provide an apparatus for economically, safely and positively feeding oil to burners, and one which is especially adapted for use in those municipalities in which ordinances prohibit the use of gravity feeding apparatus.

With the foregoing in mind the invention will be fully understood from the following description and claims when the same are read in connection with the drawing, forming part of this specification, in which:

Figure 1 is a sectional view illustrating the arrangement of the apparatus constituting the best embodiment of my invention known to me, relative to a building and a hydrocarbon burner located in a stove contained in the building. Fig. 2 is an enlarged detail section showing one of the gages which I prefer to employ.

Referring by letter to the said drawing: A is a building.

B is a stove in the building, and C is a hydrocarbon burner positioned in the fire-box of the stove. The said hydrocarbon burner may, of course, be of any construction suitable for use in connection with my novel apparatus.

D is a water tank comprised in my apparatus and located at a suitable elevation, preferably on top of the building A.

E is an oil tank the capacity of which is slightly greater than that of the water tank for a purpose hereinafter pointed out.

F is an oil tank of comparatively small capacity which is located at a suitable elevation, preferably on top of the building at a point adjacent to the water tank D, and G and H are pipes communicating with the interior of and extending upward from the oil tank E.

It is essential that the oil tank E be located in a horizontal plane below that of the water tank D, and for the sake of safety and convenience I bury the said tank E in the ground, and extend the pipes G and H from the tank to a point slightly above the surface

of the ground, as illustrated. The pipe G extends upward from a point adjacent to the bottom of the tank E, and is provided near its upper end with a suitable valve I. The pipe H on the other hand extends upward from the top of the tank E or a point near said top, and is provided adjacent to its upper end with a suitable valve J. For the sake of lessening the liability of the valves I and J being turned by mischievous persons, I prefer to adapt the ends of the stems of said valves for the engagement of a key, (not shown) to be retained in the possession of the party in charge of the apparatus. I also prefer to so shape the upper end of the pipe H as to adapt the same to receive a removable filling funnel K.

Intermediate the water tank D and the pipe G is a pipe L provided at a suitable point with a valve M, while intermediate the pipe H and the hydrocarbon burner C is a pipe P, provided, preferably at a point adjacent to said burner C, with a valve R.

V is a pipe extending between and connecting the oil tank F and the pipe P and equipped with a valve W, and M' is a valve in the pipe P at a point between the pipe V and the pipe H.

In using my novel apparatus, the oil tank E is filled by pouring oil down the funnel K after both of the valves M and M' are closed and the valves I and J are opened. When oil is thus supplied to the tank E it will be observed that the oil will displace any water that may be contained in the tank E, and the said water will pass out through the pipe G; the valves M and M' being closed during the filling of said tank E, and valve W in pipe V opened to supply oil to the burner C during the filling process. Subsequent to the filling of the oil tank, E the tank D may be supplied with water through a hose, supply pipe or in any other convenient manner. Then when the valves I and J are closed and the valves M and M' are opened, it will be seen that the gravitation of water from the tank D will displace oil from the tank E and will positively force oil up the pipe H and through the pipes P and V to the burner C and auxiliary oil tank F, respectively, and will assure a steady and uniform supply of oil to said burner without liability of water reaching the pipe P, the tank F or the burner and flooding the latter, this being due to the fact that the water tank D is, as before described, of less capacity, say two or three gallons, than the oil

tank E. This difference between the capacity of the two tanks D and E is very advantageous for the reason that when the water tank is empty the oil tank will always contain a small quantity of oil. Valve W may be left open (after valves M M' have been opened) long enough to fill or partially fill tank F with oil, after which it may be closed until the next refilling time.

I prefer to provide the tanks D and F with gages X for indicating the height of the fluid therein. The said gages are identical in construction and therefore a detailed description of the one complementary to the tank D and shown in detail in Fig. 2 will suffice to impart a definite understanding of both. The said gage, Fig. 2, comprises a tube *a*, preferably of metal, arranged in and communicating at *b* with the interior of the tank and extending through the top wall of the tank and having a cover *c* at its upper end designed to keep out rain, a float *d* movable in tube *a* and having a stem extending through the cover thereof, and a depending device *e* connected with the float stem and arranged outside the tank and terminating in a portion *e'* arranged in the same horizontal plane as the float. The said portion *e'* is arranged to cooperate with a graduated scale on the tank and indicate the height of the fluid in the tank.

In order to avoid interruption in the operation of the burner C during the described refilling of the oil tank E, I prefer to provide the before mentioned auxiliary oil tank F of proportionately small capacity ranging say from one quart to one gallon which is filled as described from tank E. Leading from the said auxiliary tank F to the pipe P, preferably at a point between a valve M' in said pipe P and the valve R is a pipe V having a valve W. The said valve W is closed at all times except when the tank F is being filled or the tanks D and E are being filled and the valves M' and M are closed. At such latter time the valve W is opened to put in operation the gravity feed of oil from the tank F to the burner C.

It will be noted from the foregoing that in addition to the simplicity of my apparatus and the efficiency of the same in positively and uniformly supplying oil to the burner C, the said apparatus is materially advantageous for the reason that its parts take up practically no space in and about the building wherein the burner C is located.

The construction herein illustrated and described is the best practical embodiment of my invention known to me, but it is obvious that in the future practice of the invention such changes or modifications may be made

as fairly fall within the scope of the invention as defined in the claims appended.

Having described my invention, what I claim and desire to secure by Letters-Patent, is:

1. An apparatus for the purpose described, comprising a hydrocarbon burner, a water tank located in a horizontal plane above that of the hydrocarbon burner, an oil tank arranged in a horizontal plane below that of the water tank, a conduit leading from the upper portion of the oil tank to the hydrocarbon burner and having a valve and also having a valved filling branch, a conduit leading from the water tank to the lower portion of the oil tank and having a valve and also having a valved branch for the discharge of water, an auxiliary oil tank located in a horizontal plane above that of the hydrocarbon burner, and a valved conduit intermediate said auxiliary oil tank and the burner.

2. An apparatus for the purpose described, comprising a building, a hydrocarbon burner arranged in the building, a water tank located on the upper portion of the building and above the burner, an auxiliary oil tank located on the upper portion of the building and above the burner and connected through a valved conduit with said burner, an oil tank located in the ground surrounding the building, a conduit leading from the upper portion of the oil tank to the hydrocarbon burner and having a valve and also having an upwardly extending, valved filling branch, and a conduit leading from the water tank to the lower portion of the oil tank and having a valve and also having an upwardly extending, valved branch for the discharge of water.

3. An apparatus for the purpose described, comprising a hydrocarbon burner, a water tank located in a horizontal plane above that of the hydrocarbon burner, an oil tank arranged in a horizontal plane below that of the burner, a conduit leading from the water tank to the lower portion of the oil tank, a conduit leading from the upper portion of the oil tank to the burner, an auxiliary oil tank located in a horizontal plane above that of the hydrocarbon burner, a conduit intermediate said auxiliary oil tank and the burner, and valves for controlling the said conduits for supplying oil to the burner.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FRANK E. NELSON.

Witnesses:

GEO. O. RUSSELL,
ROGER S. PAGE.