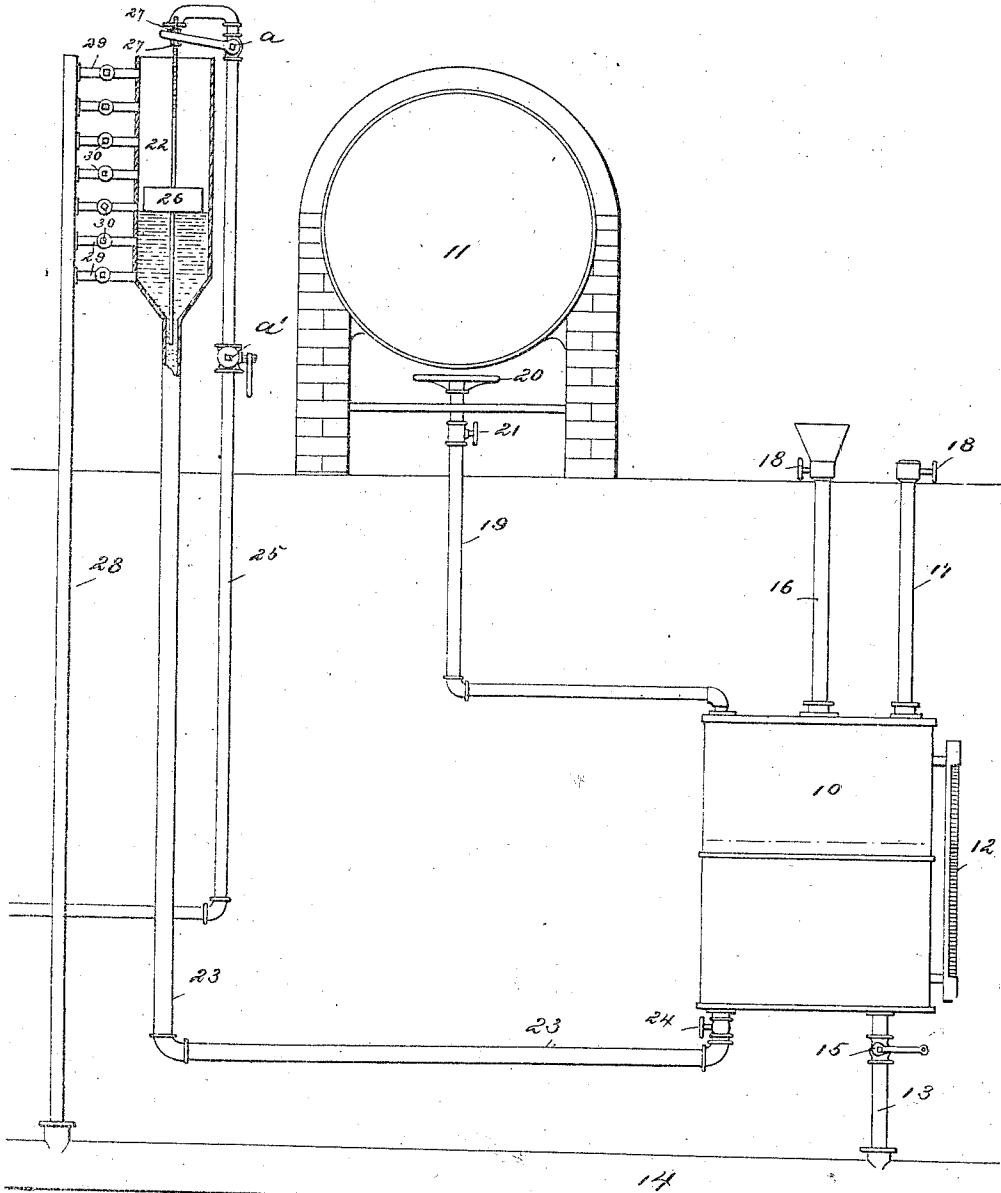


(No Model.)

C. T. DE ST. AUBIN & A. Y. COMSTOCK.  
APPARATUS FOR FEEDING OIL TO BURNERS.

No. 422,848.

Patented Mar. 4, 1890.



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# UNITED STATES PATENT OFFICE.

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## APPARATUS FOR FEEDING OIL TO BURNERS.

SPECIFICATION forming part of Letters Patent No. 422,848, dated March 4, 1890.

Application filed November 15, 1889. Serial No. 330,415. (No model.)

### *To all whom it may concern:*

Be it known that we, CHARLES TRENCHÉVENT DE ST. AUBIN and ARCHIBALD Y. COMSTOCK, both of New York city, in the county and State of New York, have invented a new and Improved Apparatus for Feeding Oil to Burners, of which the following is a full, clear, and exact description.

Our invention relates to an apparatus for feeding oil to burners, and the especial object of the invention is to force oil or other liquid fuel of less specific gravity than water with a uniform pressure from a receptacle buried at any desired depth below the surface of the ground, and located at any distance from the place of combustion, regardless of said depth or said distance.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claim.

Reference is to be had to the accompanying drawing, forming a part of this specification, which represents a side elevation of the apparatus, partly in section.

A receptacle 10, adapted to receive petroleum or other liquid fuel, may be located at any desired point, preferably below the surface of the ground and at a distance from the boiler 11, or the machine or apparatus to which the fuel is to be fed. The receptacle is provided at one side with a gage-glass 12, of any desired construction, and at the bottom with a waste-pipe 13, connected with a sewer or drain 14, said waste-pipe being provided with a stop-cock 15. From the top of the receptacle two tubes 16 and 17 are carried upward, each provided with a suitable valve 18, one tube serving as a medium for the introduction of the oil into the receptacle and the other tube acting as a vent.

The supply-tube 19 of the burner 20 is fitted with a valve 21 and is connected in any suitable or approved manner with the top of the oil or fuel receptacle.

At any desired point above the surface of the ground a water-chamber 22 is constructed, preferably provided with an open top and having a pipe-connection 23 with the bottom of the oil or fuel receptacle 10, which connection is furnished with a valve 24, located

ordinarily immediately beneath the receptacle. The water-service pipe 25 is carried upward and curved over the top of the water-chamber 22, being provided ordinarily with two stop-cocks *a* and *a'*, and through the handle of the upper cock *a* the stem of an air-tight float 26, located in the water-chamber, is passed, which stem is adjustably connected with the said cock *a*, the connection being usually effected by threading the upper end of the stem and screwing nuts 27 thereon, one located above and the other below the handle of the upper cock, as illustrated.

A waste-pipe 28 is located at the side of the water-chamber and connected at its lower end with the drain or sewer, and a series of tubes 29, arranged one above the other, is preferably utilized to connect the waste-pipe 28 and the water-chamber, each tube being fitted with a stop-cock 30.

To fill the receptacle 10 with oil or other liquid fuel, the valves 15, 21, and 24 and the stop-cock *a'* are closed and the valves 18 in the supply and vent pipes 16 and 17 are opened. The oil or fuel is thereupon poured into the supply-pipe 16, the air or gases finding an escape through the vent-tube 17. The height of the oil in the receptacle may be determined through the medium of the gage-glass 12, and when the receptacle has been properly filled the valves 18 are closed and the valve 24 and stop-cock *a'* opened, thus allowing the water from the chamber 22 to flow through the pipes 23 into the receptacle 10 at the bottom and below the liquid fuel, and the said fuel, by reason of the pressure of the water-column, is forced through the pipe 19 and valve 21, which is now open, and combustion will take place at the burner 20.

The air-tight float 26 serves to cut off the supply of water from the service-pipe 25 when the height of the column of water desired is obtained in the water-chamber 22. The height of the column of water is regulated by opening at will either of the stop-cocks 30, which serves as an overflow, through the medium of the waste-pipe 28 to the drain-pipe or sewer 14. The float is raised or lowered to suit the level of the water or pressure desired in the water-chamber 22 by manipulation of the nuts 27, whereby the stem

of the float may be raised or lowered. The level or pressure is controlled by opening either one of the stop-cocks 30. The float 26 may be dispensed with when economy of water is not a consideration, the object being to economize in the use of water, if desirable.

When the burner 20 is not in use and it is desired for purposes of safety to remove the fuel-supply from the burner supply-pipes, the stop-cock *a'* is closed and the stop-cock 15 of the waste-pipe 13 opened, thus cutting off the supply of water from the service-pipe 25 and allowing the water to escape from the receptacle 10 into the drain or sewer 14.

When the upper surface of the oil is visible through the gage-glass 12, the stop-cock 15 is closed.

We are aware that the method of feeding oil or similar fluid fuel to a burner consisting in forcing the oil upward by a column of heavier fluid is not new, or the employment of petcocks or valves to regulate the weight of the columns of the heavier fluid, and we do not, therefore, claim the same as our invention.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The combination, with a liquid-fuel receptacle and a burner connected therewith at the top, a waste-pipe connected with said receptacle at its bottom, and also with a drain, of a water-tube or stand-pipe connected with the bottom of the receptacle, a vertical waste-tube located at one side of the stand-pipe and connected at its lower end with a drain, a series of valved horizontal waste-tubes connecting the vertical waste-tube and stand-pipe, said horizontal tubes being arranged one above the other, a service-pipe provided with stop-cocks and having an outlet in the stand-pipe, and a float located in the stand-pipe adjustably connected with one of the stop-cocks of the service-pipe, all combined for operation substantially as specified.

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