This invention relates to auxiliary tanks to be used in connection with fuel oil burners, its object being the production of a tank to be interposed between the oil supply and the pump and which will deliver to the pump when first started a small quantity of oil for priming purposes and subsequently will deliver a full supply of oil sufficient to supply the burner.

Another object of the invention is the provision of a simple means of screening the oil as it passes through the tank to the pump. These objects are attained by the instrumentalities shown in the accompanying drawings.

For the purpose of illustrating the invention, one preferred form thereof is illustrated in the drawings, this form having been found to give satisfactory and reliable results although it is to be understood that the various instrumentalities of which the invention consists can be variously arranged and organized and the invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described except as required by the scope of the appended claims.

Of the drawings:

Figure 1 represents a vertical section of a device embodying the principles of the present invention.

Figure 2 represents a horizontal section of same on line 2, 2 on Fig. 1, and

Figure 3 represents a horizontal section on line 3, 3 on Fig. 1.

Similar characters indicate like parts throughout the several figures of the drawings.

In the drawings 10 is the head of a cylindrical tank 11 having a bottom 12 provided with a central boss 13 through which extends an outlet 14.

The bore of the boss 13 is provided at its lower end with a threaded socket 15 to receive the end of a pipe leading to any suitable pump utilized in pumping oil to a fuel oil burner.

As the burner, pump and pump connections may be of any well known construction, it is believed unnecessary to illustrate the same.

The boss 13 is preferably centrally disposed on the bottom 12 and has extending upwardly therefrom in the centre of tank 11, a pipe 16, the upper end of which is closed by a plug 17.

Below the plug 17 are oppositely disposed lateral openings 18 in the wall of the pipe 16, the combined area of said openings 18 being sufficient to supply the amount of oil necessary for the operation of the burner.

Near the lower end of the pipe 16 are two very small openings 20 which are made of such combined area as to permit the passage of an amount of oil only about one third the capacity of the pump working in conjunction with said tank.

The head 10 is provided with a lateral boss 21 having an inlet opening 22 therein through which oil may pass into the tank 11 from the usual main supply tank.

This head 10 has an opening 23 therein surrounded by a threaded flange to which is secured the closing cap 24.

Surrounding the pipe 16 is a tubular screen 25 of fine mesh, said screen 25 having an annular member 26 at the bottom thereof surrounding the pipe 16 at a point below the openings 20 and the upper end of the screen has a head 27 provided with a depression 28 to receive the upper end of pipe 16.

By means of the annular member 26 and depression 28 the screen is retained in a position concentric to said pipe 16.

When it is desired to clean the screen 25 the cap 24 is removed and the screen may be removed from the tank through the opening 23.

This screen 25 prevents any foreign substance passing through the openings 18, 20 into the pipe 16 so that all oil passing to the pump will be free of all dirt and solid particles.

With this tank installed in the oil supply system of a fuel oil burner, the first action of the pump when started will be to draw into the pump through the openings 20 a sufficient amount of oil to prime the pump but not enough to supply the burner for effectual operation.

At the same time this small quantity of oil is being drawn into the pump a much larger quantity of air is being drawn into said pump through the openings 18 near the top of the pipe 16.
In other words, on the start of the pump about one third oil and two thirds air will be forced through the pump.

The withdrawal of this air from the tank will cause a vacuum in the tank thereby creating a suction so that the tank will quickly fill with oil from the main supply tank.

As soon as the oil in the tank exceeds the level of the openings no more air will be withdrawn from the tank and a full supply of oil will be delivered to the burner.

Whenever the level of the oil in the tank reaches a point below the openings the air will again be drawn into the pump and a vacuum created in the tank.

It is obvious therefore that the operation of the device will be automatic.

It is believed that the operation and many advantages of the invention will be apparent without further description.

Having thus described my invention, I claim—

1. A tank having an inlet near the top thereof and an outlet in the bottom; and a pipe extending upwardly in the tank from said outlet closed at its upper end and having lateral openings in the wall thereof near the top and also near the bottom, the lower opening being smaller than the upper opening.

3. A tank having a fluid inlet near the top thereof and an outlet in the bottom; and a pipe extending upwardly in the tank from said outlet closed at its upper end and having lateral openings in the wall thereof near the top and also near the bottom, the lower opening being of a size to permit the passage of fluid in quantity about one third of that passable through the upper opening.

4. A tank for supplying oil pumps having an inlet near the top thereof and an outlet in the bottom, and means within said tank communicating with said outlet adapted at the starting of suction at said outlet to withdraw oil from the tank and at the same time withdraw air from above the oil in said tank.

5. A tank for supplying oil pumps having an inlet near the top thereof and an outlet in the bottom, and means within said tank communicating with said outlet adapted at the starting of suction at said outlet to withdraw from the tank a small quantity of oil and a much larger quantity of air.

Signed by me at Lynn, Mass., this 6th day of May, 1924.

SINNIUS M. HANSEN.