F. J. PRATT, Jr.

DOUBLE ACTING PUMP.

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914,457. Patented Mar. 9, 1909.

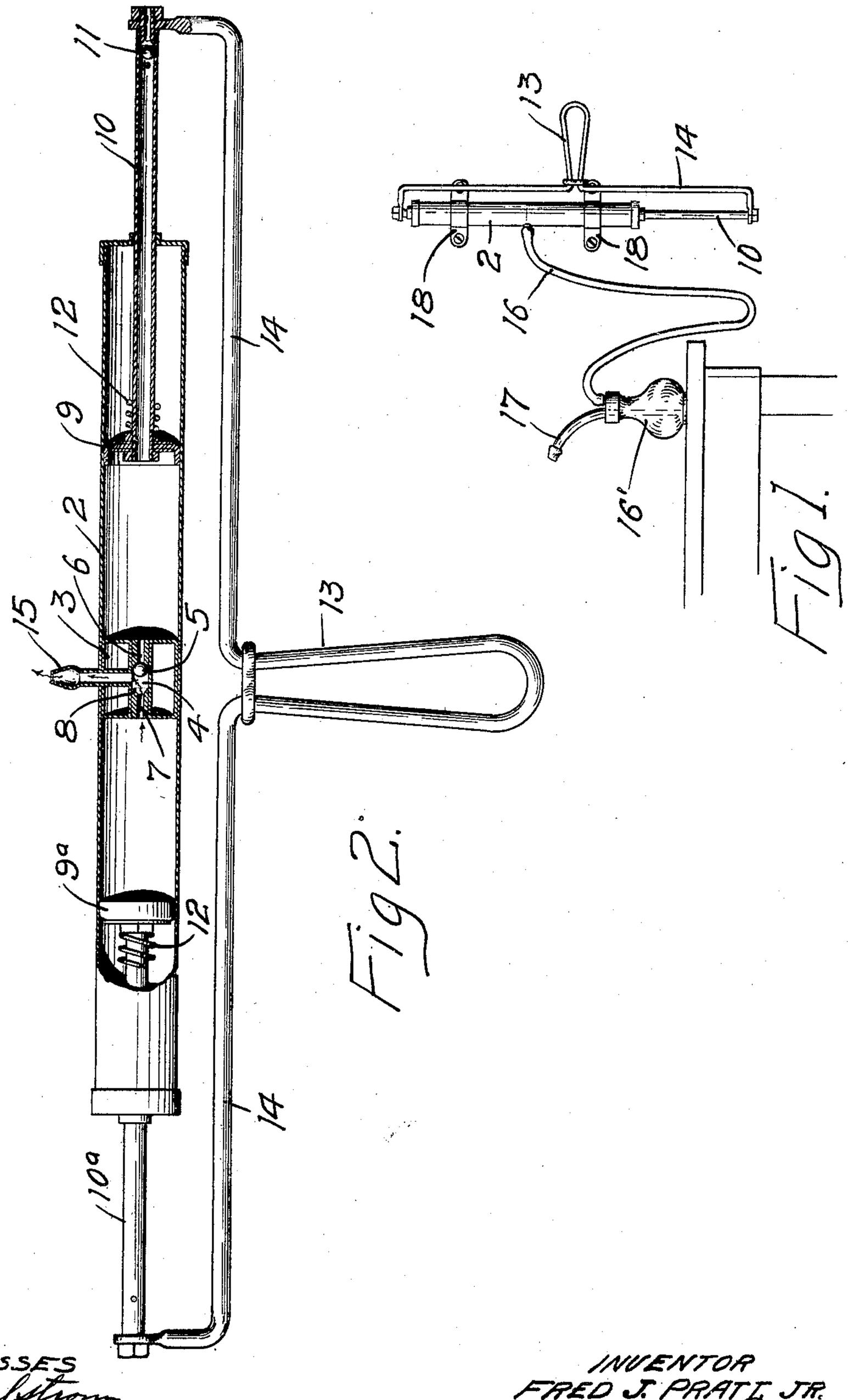

Fig 1.

Fig 2.

WITNESSES

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FRED J. PRATT, JR., OF MINNEAPOLIS, MINNESOTA.

DOUBLE-ACTING PUMP.

No. 914,457. Specification of Letters Patent. Patented March 9, 1909.

Application filed January 21, 1908. Serial No. 412,022.

To all whom it may concern:

Be it known that I, FRED J. PRATT, JR., of Minneapolis, Hennepin county, Minnesota, have invented certain new and useful Improvements in Double-Acting Pumps, of which the following is a specification.

My invention relates to double-acting pumps designed particularly for use with an atomizer, the object of the invention being to provide a pump device by means of which a strong continuous spray may be obtained from the atomizer nozzle.

A further object is to provide a pump adapted to be fastened on the wall or a door where it can be conveniently reached and operated.

The invention consists generally in various constructions and combinations, all as hereinafter described and particularly pointed out in the claims.

In the accompanying drawings forming part of this specification, Figure 1 is a view illustrating my improved pump in use. Fig. 2 is a sectional view showing the interior construction of the pump.

In the drawing, 2 represents the pump barrel composed preferably of two sections of tubing placed end to end with a wall 3 fitting into their open contiguous ends, whereby a chamber is formed in each end of the barrel. The wall 3 has a centrally arranged valve chamber 4 with a ball valve 5 therein. Passages 6 and 7 lead from said chamber through the wall to the chambers in the ends of the pump barrel and valve seats 8 are formed at the inner ends of said passages against which the ball valve 5 is seated by the pressure of the air. Pistons 9 and 9^a are provided in the pump chambers having hollow rods 10 and 10^a communicating through valves 11 with the open air. These valves open when the pistons are moved toward the ends of the pump barrel and close when the pistons are forced toward the middle portion of the pump barrel. Springs 12 are provided on the piston rods to contact with the ends of the pump barrel and form cushions at that point for the pistons. An operating handle 13 is provided opposite the middle portion of the pump barrel and has flaring ends 14 that are attached to the outer ends of the piston rods.

A nipple 15 communicates with the chamber 4 and extends through the wall of the pump barrel and has an end to which a hose 16 is adapted to be attached. An atomizer 16′ is connected to the hose and provided with the usual nozzle 17 through which by the operation of the pump pistons a continuous stream of the atomized contents of the receptacle may be discharged. The pump barrel is preferably arranged in a vertical position and may be secured by straps 18 to the wall or to any other support.

To use the device the operator grasps the handle 13 and moves it up and down to reciprocate the pistons in the pump barrel. As one piston moves toward the center of the barrel the other will be withdrawn therefrom and the valve 5 will be forced against one of the seats in the valve chamber and the air driven ahead of the piston through the chamber into the atomizer tube. As the piston is withdrawn toward the end of the barrel its valve 11 will open and allow the pump chamber to fill with air.

I have found this device to be extremely efficient, easily operated and capable of discharging a strong continuous stream from the nozzle of the atomizer.

I claim as my invention:

1. The combination, with a wall, of means for securing a pump barrel vertically thereon, a wall provided in said barrel near the middle portion thereof and dividing its interior into two chambers, said wall having a valve chamber and passages leading therefrom to said pump chambers, and a nipple leading from said valve chamber and adapted to be connected to an atomizer tube, a valve provided in said valve chamber and arranged to close said passages one at a time, pistons provided in said pump chambers and having rods extending through the ends of said barrel and said rods being hollow and having air intake ports and valves therefor and a handle provided on one side of said barrel and projecting laterally therefrom and having ends attached to the ends of said piston rods, and the up and down movement of said handle causing the reciprocation of said pistons in said barrel and a continuous blast of air through said nipple, substantially as described.

2. An atomizer pump comprising a barrel, partition walls provided in said barrel on each side of the center thereof, a tube connecting said walls and forming a passage way from one end of said barrel to the other, a valve provided within said tube and having seats therein and adapted to close the passage through said tube, a nipple communi-

cating with said tube between said walls and extending outwardly through the wall of said barrel, said valve permitting communication between the ends of said barrel, one at a time, and said nipple, plungers provided in said barrel on each side of said walls, hollow rods connected to said pistons and extending through the ends of said barrel and having ports leading to the air and valves therefor and a handle having its ends attached to said piston rods and adapted when reciprocated, to move said pistons back and forth in said barrel, for the purpose specified.

In witness whereof, I have hereunto set my hand this 4th day of January, 1908.

FRED J. PRATT, JR.

Witnesses:
RICHARD PAUL,
J. A. BYINGTON.