(No Model.)

F. E. SNYDER.

PORTABLE PUMP AND SPRINKLER.

No. 263,735. Patented Sept. 5, 1882.

Fig. 1.

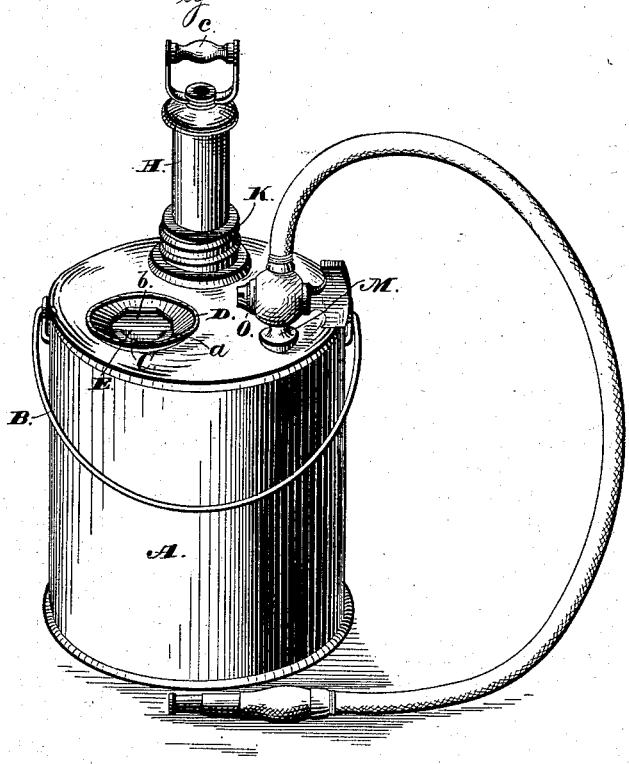
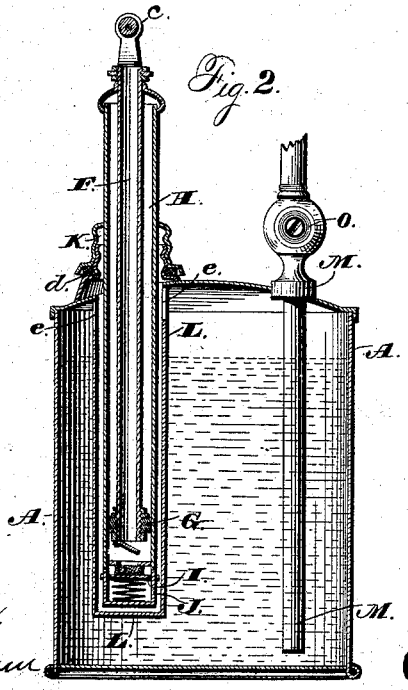


Fig. 2.



WITNESSES

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PORTABLE PUMP AND SPRINKLER.

SPECIFICATION forming part of Letters Patent No. 263,735, dated September 5, 1882.

Application filed June 21, 1882. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. SNYDER, of Massillon, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Portable Pumps and Sprinklers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in portable pumps or sprinklers, the object of the same being to provide a device that will combine simplicity and economy of construction with durability and efficiency in use; and with these ends in view my invention consists in certain details in construction and combinations of parts, as will be more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my improvement, and Fig. 2 is a vertical sectional view of the same.

A represents a sheet-metal vessel, provided with a suitable bail, B, and on its top or superior surface with the female-threaded opening C, through which the water is introduced into the can. This opening is surrounded on top by the funnel D, adapted to direct the water into the interior of the vessel, and is closed by the screw-threaded stopper E, which latter is provided with a leather or other suitable packing, *a*, adapted to hermetically close the vessel at this point and prevent the escape of the compressed air after it has once been forced therein. This stopper is provided with the thumb-piece *b*, by means of which it is turned to secure it in and remove it from position.

F is a hollow piston or plunger rod, provided at its upper end with the handle *c*, by means of which it is operated, and at its lower end with the valved piston G. This piston and rod work in the barrel or cylinder H, which latter is open at its lower end, and is provided with the upwardly-closing spring-pressed valve I. This valve I is grooved on opposite sides, so as to enable it to rest in and be guided by the stirrup J, which latter is secured to the lower end of the barrel H. As the piston-rod I is drawn upward the valve on the under side of the piston G opens downward and allows the air to rush down through the hollow piston-rod into the interior of the barrel. While the rod is moving upward the spring-pressed valve I is closed and prevents the escape of the compressed air already confined in the can; but as soon as the piston-rod is forced downward the valve on the lower side of the piston closes and the valve I opens and allows the air to escape into the vessel.

The chamber or cylinder H is provided at a suitable point throughout its length with the female screw-threaded cap K, which, besides affording means for connecting the barrel to the vessel A, also serves to close the opening at the said connection. A suitable packing, *d*, is interposed at this point to hermetically seal the same.

L is an air-compartment into which the air escapes after it leaves the air-pump, already described. This chamber or compartment is slightly larger than the pump-barrel, and communicates with the interior of the vessel A by the openings *e*, situated near the top of the said vessel. This arrangement protects the pump and prevents the water from constantly getting therein and retarding its operation.

M is the discharge-pipe rigidly secured to the top of the vessel, with the lower open end thereof in close proximity to the bottom of the can, while the upper end thereof terminates slightly above the same, and is provided at this point with a stop-cock, O, by means of which the water is cut off or turned on. A rubber or other flexible pipe is connected to the upper end of this discharge-pipe for directing the water against windows, carriages, or on plants.

When it is the desire to use my improved pump or sprinkler the water is first introduced into the vessel and the opening closed by the stopper before referred to. The stop-cock O is turned so as to cut off communication between the hose and the interior of the vessel, and the plunger or piston-rod is forced up and down. As the piston is moved up and down the air passes through the hollow piston-rod and piston into the barrel or chamber H, and from thence into the air chamber or compartment L, and from there into the interior of the

vessel A, where it is compressed. After a sufficient quantity of air has been forced into the interior of the vessel the stop-cock O is turned on, and the compressed air forces the water up through the discharge-pipe and hose in a continuous stream until all the water has passed from the vessel, or until the air has expanded until its power is exhausted. If enough air is pumped into the vessel at the commencement of the operation, it is only necessary for the operator to turn the stop-cock O and direct the stream of water against the object being washed or watered, as the compressed air in the vessel is sufficient to empty it of its contents.

When it is desired to throw a continuous stream without stopping to refill the chamber it is simply necessary to attach a pipe or hose to the upper end of the plunger-rod and provide the lower end of the said pipe or hose with a check-valve. The lower end of this pipe rests in a vessel or cistern of water, and as the plunger is operated water is continuously forced into the chamber and passes from thence through the discharge-pipe in a continuous stream, as before described.

My improvement is admirably adapted for use in case of fires, for washing carriages, windows, or watering flowers, plants, &c., and can be made of any convenient size or sizes to suit different purposes. It is also simple in construction, of few parts, and can be manufactured at a small initial cost.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a portable pump or sprinkler, the combination, with the vessel for containing the liquid and a discharge-pipe connected therewith, of an air-chamber extending into said vessel, and provided with air-openings at its upper end and an air-pump the barrel of which extends downwardly into said air-chamber, substantially as set forth.

2. In a portable pump or sprinkler, the combination, with a suitable vessel having a filling-opening, a stopper for closing the same, a discharge-pipe provided near its upper end with a stop-cock, and an air chamber or compartment in which the lower end of the barrel of the air-pump rests, the said air-chamber communicating with the interior of the said vessel by suitable opening, of an air-pump removably secured to the vessel and adapted to force air first into the air-chamber and then into the interior of the vessel, substantially as and for the purpose described.

3. In a portable force-pump, the combination, with a suitable receiving vessel or tank having a filling-opening therein, a cap for closing the same, a discharge-pipe provided with a cock, and an air chamber or compartment communicating with the interior of the vessel by suitable openings near the top of the can, of an air-pump provided with a hollow piston-rod through which air is forced into the interior of the vessel, and means for retaining it therein, substantially as described.

4. The combination, with the vessel or tank constructed and provided with the parts, as described, of an air-pump composed of a barrel or chamber provided at its lower end with the spring-actuated valves, the hollow piston-rod, and the valved piston, all of the above parts constructed and adapted to operate as described.

5. The combination, with the vessel or tank constructed and provided with the parts, as described, of the air-pump composed of the barrel or chamber provided with the cap for securing and holding the same in position, and the spring-actuated valve, the hollow piston-rod, and the valved piston, all of the above parts constructed and adapted to operate as described.

In testimony that I claim the foregoing I have hereunto set my hand this 20th day of May, 1882.

FRANK EDWARD SNYDER.

Witnesses:
DAVID SCHWORM,
PHILIP SMITH, Jr.