

(No Model.)

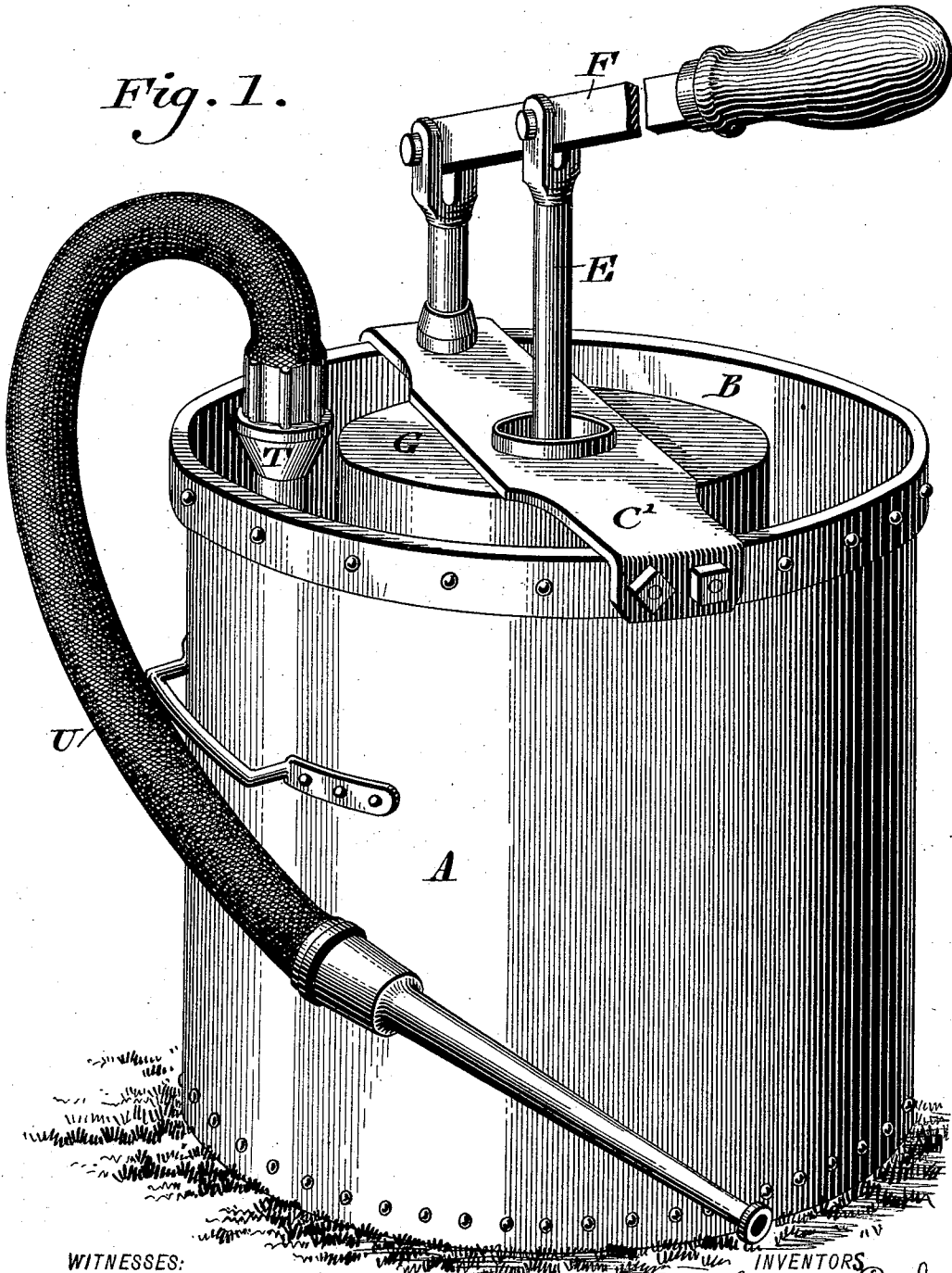
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C. POUFÉ & C. LOCK.  
FIRE ENGINE AND PUMP.

No. 528,563.

Patented Nov. 6, 1894.

*Fig. 1.*



WITNESSES:

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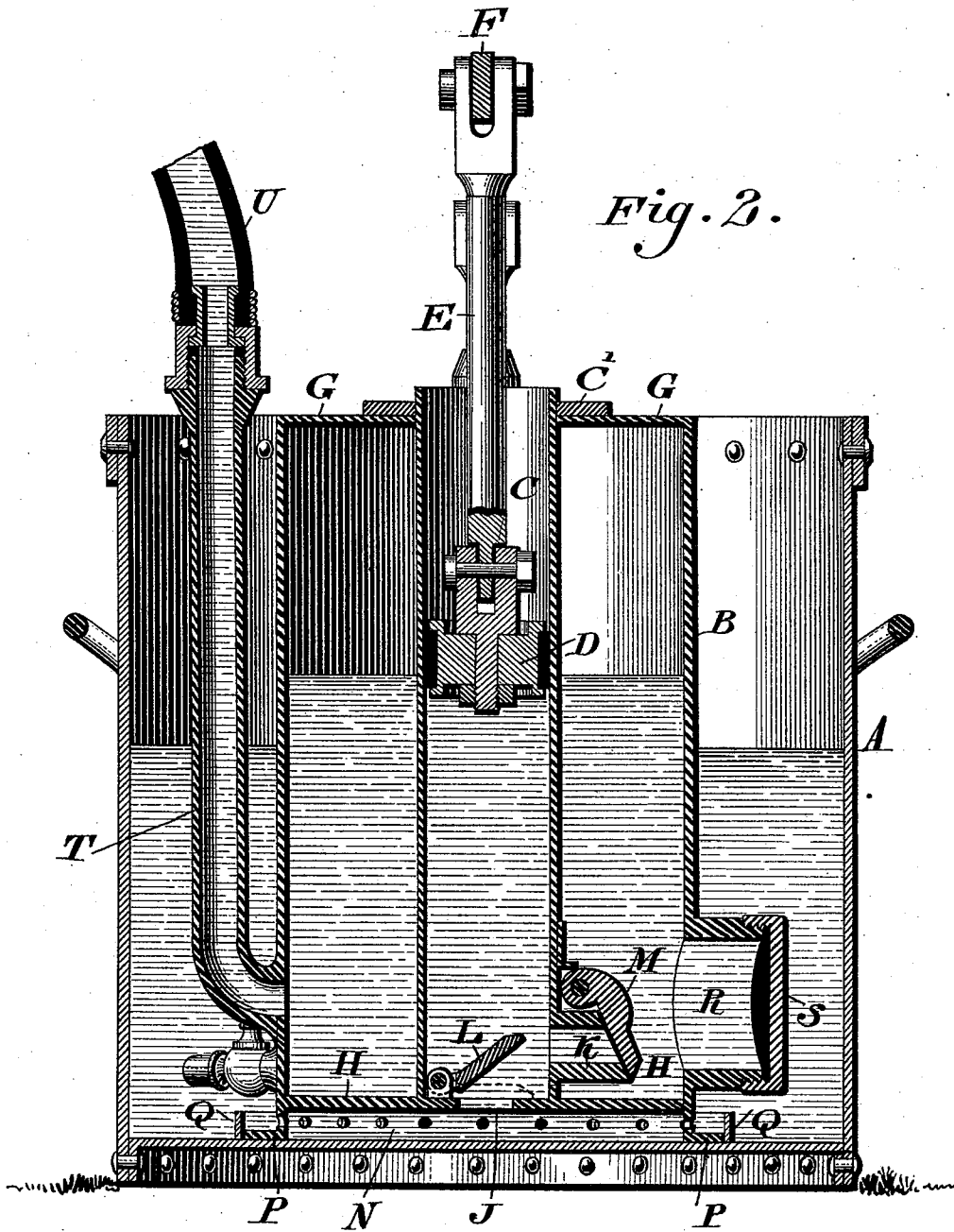
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# UNITED STATES PATENT OFFICE.

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## FIRE-ENGINE AND PUMP.

SPECIFICATION forming part of Letters Patent No. 528,563, dated November 6, 1894.

Application filed December 23, 1893. Serial No. 494,518. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES POUFÉ and CHARLES LOCK, citizens of the United States, both residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Fire-Engines and Pumps, which improvement is fully set forth in the following specification and accompanying drawings.

Our invention consists of a fire engine and pump, which is more particularly designed for hand purposes, and composed of a supply-tank, a barrel, a piston, a cylinder with an air-chamber therein, induction and eduction ports, and valves therefor, and a discharge pipe on said cylinder, the construction and operation being hereinafter more fully set forth.

Figure 1 represents a perspective view of a fire engine and pump embodying our invention. Fig. 2 represents a central vertical section thereof.

Similar letters of reference indicate corresponding parts in the two figures.

Referring to the drawings: A designates a water-receiving or supply-tank, within which is a cylinder B, the upper part of which constitutes an air chamber.

C designates a barrel which is located within the cylinder B, and contains the piston D, to whose rod E is attached the operating lever F, which is suitably mounted on the tank A. The cylinder B has a closed raised top G, and a closed bottom H. The barrel C has an inlet port J in its bottom, and an outlet port K in its side, the upper wall of said port J forming the seat of the valve L. The wall of the port K forms the seat of the valve M, it being noticed that the valve L opens upwardly, and the valve M opens outwardly, and that the valve L is in the barrel C, and the valve M is in the cylinder B.

Below the bottom of the cylinder and barrel which latter is secured at its lower end to the said bottom of the cylinder is a rim N, which is projected beyond said bottom H and is perforated and serves to form a communication between the tank A and the barrel C, said rim also serving to raise said barrel above the base of the tank A, so that the perforations of the rim N are unobstructed.

In order to retain the cylinder and barrel in position on said base, the lower end of the rim N is formed with a horizontal flange P, which is fitted within the annulus Q, the latter rising from the base of the tank A, and being secured thereto in any suitable manner, but said flange P if desired may be bolted or otherwise secured to said base.

In the side of the cylinder B is a man or hand-hole R which is closed by the cap S, which when removed permits access to the valve M and port K, it being evident that the cylinder B and barrel C, with their appurtenances, may be readily removed from the tank A.

T designates the discharge pipe or tube of the cylinder B, the same being adapted to have the hose U connected with it, which latter is provided with a branch pipe for evident purposes.

In order to prevent the barrel and cylinder from rising, on the ascent of the piston, a cross piece C' is employed, which has an opening for the passage of the barrel C there-through, said cross piece resting on the top G of the cylinder, and having its ends detachably secured to the tank, said cylinder and barrel being firmly connected with each other. It will be noted that by the above construction, a simple and effective means is provided for readily assembling or disconnecting the operative parts of the device, the upper portion of the same being prevented from any lateral or upward movement by the engagement of the said cross piece C', while the lower portions of the cylinder and barrel are immovably held in position by means of the horizontal flange P, which contacts with the base of the tank, and the annulus Q, the latter serving also as a guide when the parts are being assembled, and when it is desired to inspect the cylinder and barrel for any purpose, on removing the cross piece C' all the operative parts of the device can be readily lifted out of the tank, as is evident.

The operation is as follows: The tank is supplied with water and the piston worked by the lever F, so that on the up-stroke, water is drawn through the perforated rim N and port J into the barrel C, the valve L being opened while the valve M remains closed. On the down-stroke of the piston, the valve

L is closed, and the valve M is opened, so that the water is forced into the cylinder B and from thence discharged through the pipe T. As the cylinder B is of greater diameter than the said pipe T, and receives a large volume of water, and the upper part of the former constitutes an air-chamber, the water in said cylinder is subjected to the pressure of the air in said chamber, as well as to the force exerted by the piston, and thus it is ejected in a forcible manner, and may be directed a great distance, as is evident.

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

1. In a fire engine and pump, a supply tank having an annulus rising from the base thereof, a cylinder in said tank having the raised bottom H, a barrel in said cylinder, the ends of the latter being projected beyond said bottom and perforated, and provided with a horizontal flange fitting within the annulus, and adapted to contact with the latter and the bottom of the tank, and a cross piece C' detachably secured to the top of said tank, and adapted to hold the upper portion of said cylinder and barrel in position while said annulus and bottom of the tank hold the lower portion of said cylinder in position, substantially as described.

2. The exterior supply tank A having the vertical annulus Q rising from the bottom thereof, the cylinder B having the raised bottom H, and the perforated rim N projected beyond said bottom and provided with the outwardly turned flange P, fitting within said annulus and resting on the base of the tank, the barrel C in said cylinder provided with the suction and discharge valves L and M, and the cross piece C' suitably secured to the tank A and adapted to hold the upper portion of the cylinder and barrel in an upright position, the above parts being combined substantially as described.

3. An exterior supply tank, a cylinder

therein having a raised bottom and a barrel in said cylinder, said tank, cylinder and barrel being concentrically arranged, a perforated flanged rim for supporting said cylinder, and adapted to contact with the bottom of said supply tank, an annular ring for holding said rim in position, suction and discharge valves arranged in the lower portion of said barrel, and a manhole in the side of the cylinder for permitting access to the discharge valve, said parts being combined substantially as described.

4. A fire engine and pump, consisting of an exterior tank, and a cylinder therein serving as an air chamber and having a raised bottom and a perforated rim extended beyond the same and provided with a horizontal flange which contacts with the bottom of said tank an annular ring attached to said bottom in position to engage such flange, a barrel connected at its lower end with the bottom of said cylinder, and provided with an inlet valve in its bottom, and an outlet valve in its side, a piston in said barrel, a cross piece for holding said cylinder in place, and a discharge pipe leading from the lower portion of said cylinder to the exterior of the tank, the above parts being combined substantially as described.

5. An exterior supply tank, a cylinder therein having a raised bottom, a barrel in said cylinder, and suction and discharge valves on the lower portion of said barrel, in combination with a depending perforated flanged rim on the bottom of said cylinder supporting the latter on the bottom of said supply tank, and a ring on said tank for holding said rim in position, the above parts being combined substantially as described.

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