(No Model.)

D. F. & H. SELZER.

PUMP.

No. 518,356. Patented Apr. 17, 1894.

Fig. 1.

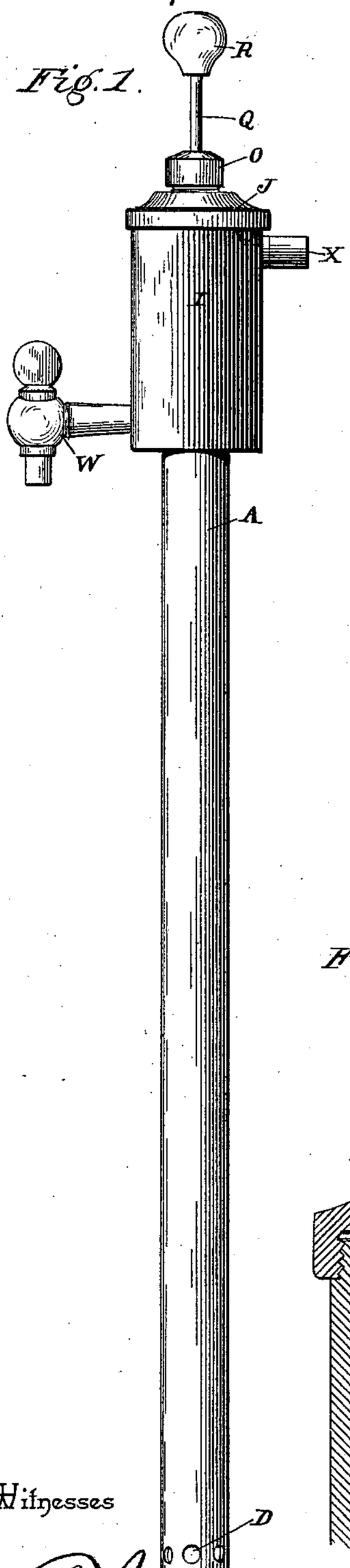


Fig. 3.

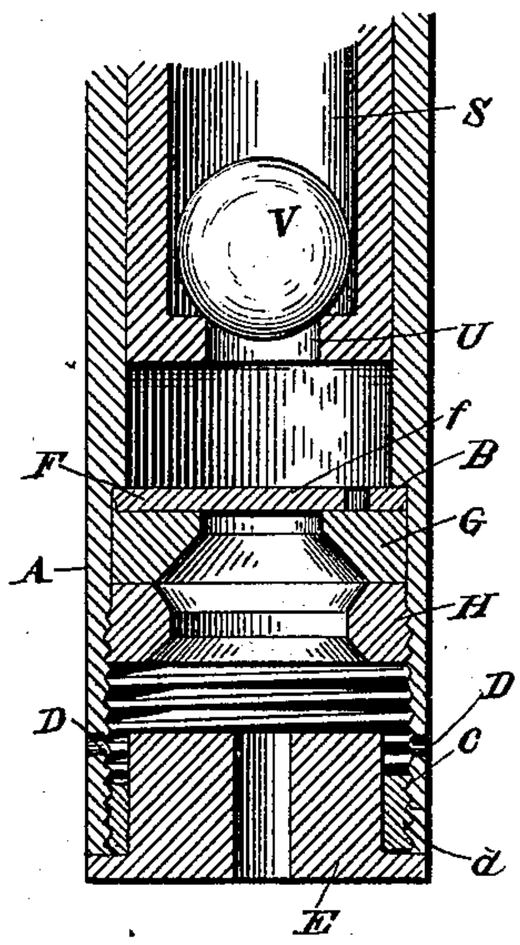


Fig. 2.

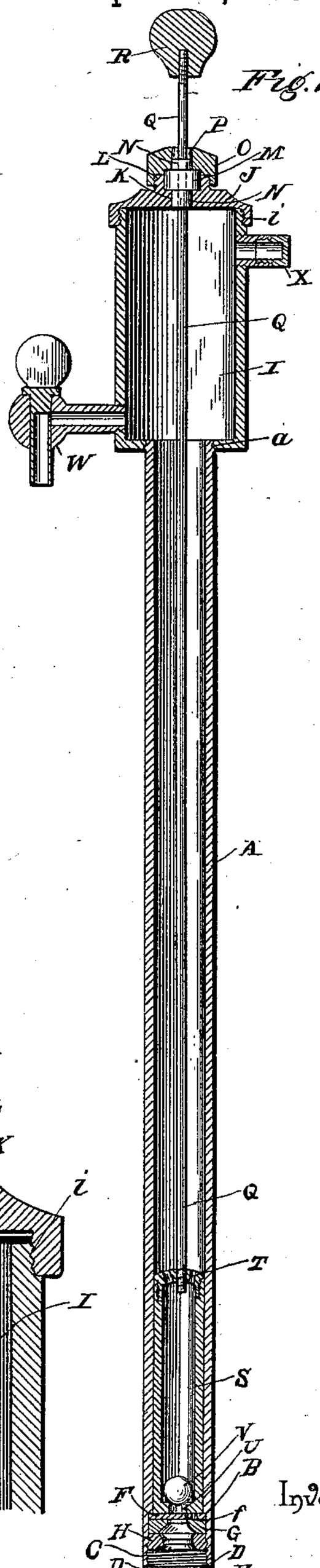
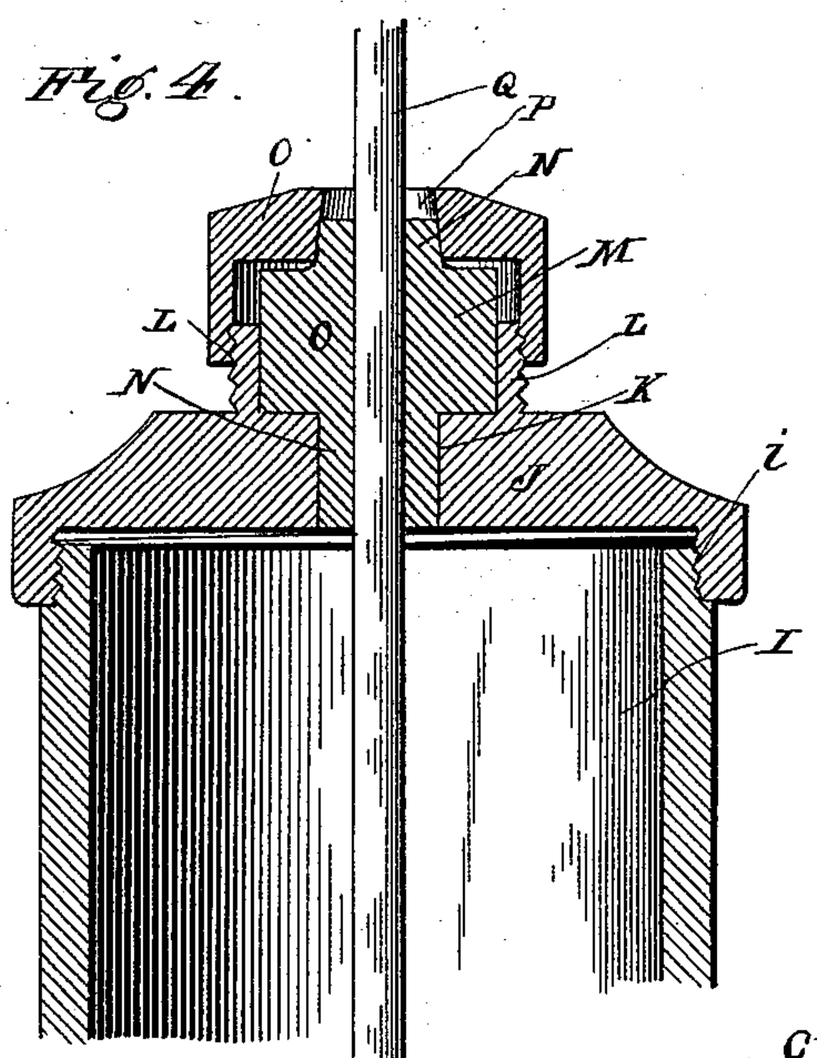


Fig. 4.



Witnesses

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PUMP.

SPECIFICATION forming part of Letters Patent No. 518,356, dated April 17, 1894.

Application filed July 27, 1892. Serial No. 441,410. (No model.)

To all whom it may concern:

Be it known that we, DANIEL F. SELZER and HENRY SELZER, citizens of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented a new and useful Pump, of which the following is a specification.

This invention relates to pumps; and it has for its object to provide an improved pump which is particularly adapted for pumping acid and alkaline liquors from carboys and other vessels in dispensing such liquids in drug stores.

To this end the invention contemplates an improved pump of this character which not only answers every purpose of ordinary lift pumps, but at the same time provides by its particular construction against any leakage which might occur.

With these and many other objects in view which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a side elevation of an acid pump constructed in accordance with this invention. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is an enlarged sectional view of the pump cylinder. Fig. 4 is a similar view of the packing box in the top of the upper reservoir.

Referring to the accompanying drawings:—A represents the pump cylinder or barrel constructed of hard rubber or other suitable material which will not be affected by acids or other chemicals in connection with which the pump is used, and the same is provided with an inner shoulder B near its lower end, and with a lower interiorly threaded portion C extending from a point near said shoulder to the extreme end of said cylinder or barrel. The said cylinder is further provided near said lower end with a series of inlet perforations D, and is designed to receive the lower ring *d* secured to the cushion cap or rest E, made of soft rubber and removably inserted in the lower end of the cylinder, the same being designed to serve as a cushion for the pump to rest upon without injury to the carboy or other vessels from which the chemical is being pumped.

As illustrated in the drawings the cushion rest E, is of a smaller diameter than the cylinder A, into the lower end of which the same is inserted, and the inner portion of said cap or rest, which is perforated for the passage of fluid therethrough, stands in from the inner threaded end of the cylinder and away from the perforations D, so as to leave a free inlet for the chemicals to be pumped, and said perforated cap or rest is held removably in position by means of the exteriorly threaded collar or bushing *d*, surrounding the same and engaging the threads of the cylinder. A valve disk F rests against the inner shoulder B of said cylinder or barrel and is provided with an ordinary flap valve *f* designed to work upwardly. The said valve disk is seated on the supplemental unthreaded valve supporting disk G, having a central valve opening, and designed to be held closely against the main valve disk, and therefore form a tight valve joint within the cylinder, by means of the threaded follower collar H. The said threaded follower collar H engages the lower interiorly threaded end of the cylinder and works against said valve supporting disk so as to hold the same firmly to its place, while at the same time allowing for the ready removal of the valve. The extreme upper end of the cylinder or barrel A is exteriorly threaded as at *a*, and is removably connected with the distributing chamber I. The said chamber I is provided with an upper exteriorly threaded end *i*, which receives the removable cap J, which cap is provided with a central opening K and an exteriorly threaded neck L, surrounding said opening upon the top of the said cap and forming a packing seat. A soft rubber combined packing and wiper sleeve M, snugly fits within the inclosed seat of said exteriorly threaded flange of the cap and is itself provided with the upper and lower short reduced sleeve-necks N, the lower of which is elongated and projects through the central perforation K in the top of said cap, while the upper reduced sleeve neck is designed to be compressed by the supplemental smaller packing or compression cap, O interiorly threaded to engage said exteriorly

threaded neck and is provided with a central tapered opening P, which as the said cap is screwed upon said neck fits over and compresses the upper reduced sleeve neck of the packing sleeve as tightly as desired against the plunger rod Q, moving through said packing sleeve, the said chamber and lower cylinder or barrel. It will be readily seen that by the packing just described, which may be termed adjustable, the packing sleeve can be tightened as tightly as desired around the plunger rod in order to effectually prevent any leaking at such points. It will be apparent that the sleeve M, is specially adapted to a pump of this character in which it is absolutely necessary that any leaking or spurting of the liquids around the plunger rod shall be positively avoided, inasmuch as the character of the chemicals pumped may be such as not only to destroy clothing, but also injurious and painful to the hands. The sleeve therefore not only serves as a packing but also as a wiper, to wipe the rod and keep the outside portion of the same always free from the chemicals which surround it in the pump. The plunger rod Q is preferably a rubber inclosed steel rod, but of course, may be any other suitable material unaffected by acid or alkaline, the said rod being provided at its upper outer end with the operating knob R, and is removably connected at its inner end within the cylinder or barrel to the hollow plunger S moving therein. The said plunger S is also constructed of materials similar to the other parts of the pump, and is provided at one end with a series of escape openings T, and its other lower end with the valve openings U over which works the rubber ball valve V, which closes, when the plunger is moving up to lift the chemical and opens on the down stroke thereof to allow the chemical to fill the cylinder above the plunger and the plunger itself as will be at once apparent. The liquid lifted into the upper larger liquid chamber is drawn therefrom through an ordinary faucet W, and when through using the pump, the same can be quickly emptied of any liquid therein by turning the same up side down and allowing the liquid to drain off through the capped opening X, arranged near the top of the distributing chamber.

From the foregoing it is thought that the construction and operation of the herein described chemical pump will be apparent without further description, and although the specific packing devices herein described are not made the subject matter of a claim in the present application, we will have it understood that such packing devices may form the subject matter of a subsequent application for a patent.

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

1. In a chemical pump, the acid proof cylinder having a lower interiorly threaded end and a series of inlet perforations in such end, a valve removably clamped within the cylinder above the perforations, a flexible cushion cap or rest arranged within the lower end of the cylinder and of a smaller diameter than the cylinder to stand in and away from the inlet perforations, an exteriorly threaded bushing ring fitting said cap or rest and removably engaging the threads of the cylinder below the inlet perforations, and a hollow acid proof valved plunger moving within the cylinder, substantially as set forth.

2. In a pump, the combination of the cylinder or barrel having the lower interiorly threaded end, perforations in such end, and an inner shoulder arranged above said perforations, a flap valve-disk adapted to rest against said inner shoulder, an unthreaded valve supporting disk bearing against said flap-valve disk, a threaded follower-collar engaging said interiorly threaded end of the cylinder and working against said unthreaded disk, a flexible cushion rest or cap of smaller diameter than the cylinder and removably fitted in the lower end thereof below and in from the inlet perforations, and a valved hollow plunger moving in said cylinder above the valve, substantially as set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

DANIEL F. SELZER.
HENRY SELZER.

Witnesses:
HARVEY MUSSER,
F. J. CREQUE.