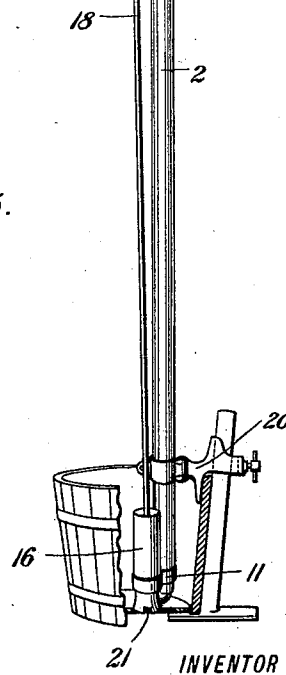
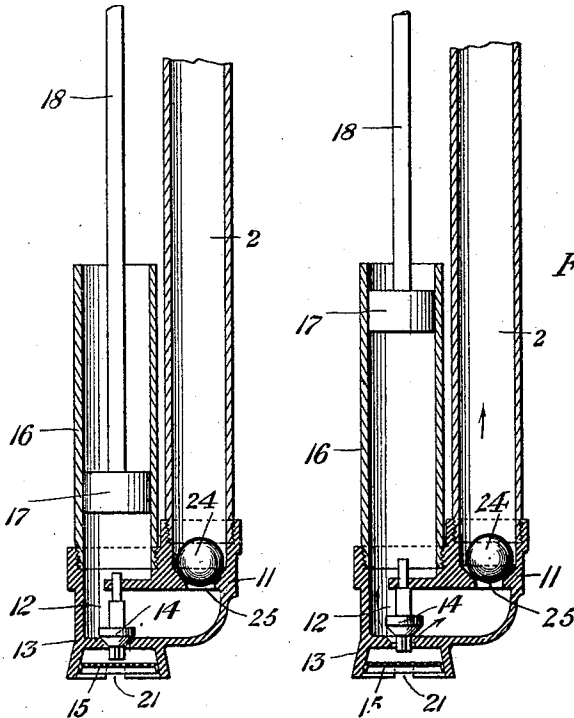
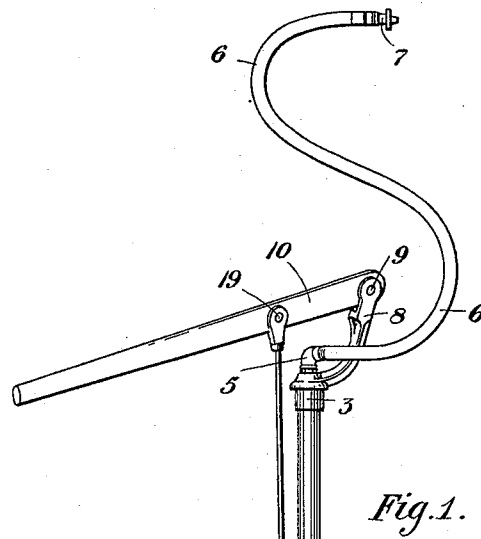
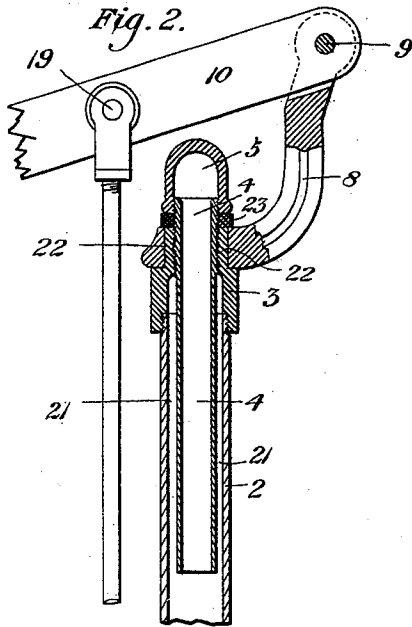


(No Model.)

M. C. HARRISON.  
SPRAY PUMP.

No. 583,471.

Patented June 1, 1897.



WITNESSES:

*Peter Edwards*  
*W. Shepard*

INVENTOR

*Moses C. Harrison*  
BY *A. M. Clarke*  
his ATTORNEY.

# UNITED STATES PATENT OFFICE.

MOSES C. HARRISON, OF PITTSBURG, PENNSYLVANIA.

## SPRAY-PUMP.

SPECIFICATION forming part of Letters Patent No. 583,471, dated June 1, 1897.

Application filed April 18, 1896. Serial No. 588,134. (No model.)

*To all whom it may concern:*

Be it known that I, MOSES C. HARRISON, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered a new and useful Improvement in Spray-Pumps, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this application, in which—

Figure 1 is a view in perspective of my improved spray-pump. Fig. 2 is a vertical sectional view, on an enlarged scale, partly broken away. Fig. 3 is a partial view similar to Fig. 2, showing the plunger in a raised position.

Similar numerals of reference refer to like parts wherever used throughout this specification.

My invention relates to the class of spray-pumps for use in spraying water or other liquid over trees, shrubbery, &c.; and it consists in the construction and location of the plunger-cylinder, plunger, and its connecting-rod whereby both are located outside of the uptake-pipe and in certain other features of construction, as shall be more fully hereinafter described.

Referring to the drawings, 2 is the main body portion of the pump, comprising the uptake-pipe, to the top of which is screwed or otherwise secured a cap 3, into the inside of which is screwed a section of pipe 4 of a less diameter than the diameter of pipe 2, thus leaving an air-pressure space 21 between them. An arm 8, constituting a fulcrum, fits over a reduced shoulder 22 of the cap 3, and a lock-nut 23 holds it in place.

Secured to the projecting end of the pipe 4 is an elbow 5, turned out to one side, thus escaping contact with the lever 10, and to the elbow is secured the flexible spraying-hose 6, terminating in the nozzle 7, which may be of any desired form, according to required delivery of the liquid.

The arm 8 projects outwardly and upwardly from the cap 3, to the upper end of which, at 9, is pivotally secured the end of the lever 10. The lower end of the pipe 2 is screwed into the top of a side branch portion 11, the interior of which is ground and constitutes a

valve-seat for a rubber ball 24, which closes the opening 25, communicating with the main valve-chamber 12 of the pump, contained within the casting 13, supplied with a valve 14 and a perforated screen 15 to exclude foreign matter.

Into the upper portion of the casting 13 is screwed the tube 16, preferably made of brass, finished inside and constituting the working cylinder of the pump. A plunger 17, provided with packing, secured to the lower end of a connecting-rod 18, is arranged to work in this cylinder, motion being imparted to it through the connecting-rod by the lever 10, to which it is pivotally secured at 19.

The operation is as follows: The pump having been inserted in any convenient vessel, as illustrated in Fig. 1, and being preferably secured in place by a clamp 20, upon motion being imparted to the plunger 17 by action of the lever a stream of liquid will be forced up through openings 21, perforated screen 15, through the opening of valve 14, opening in branch 11, raising the valve 24 through the pipe 2, and finally out through the elbow connection to the hose, escaping in a spray through the nozzle 7.

By my improved construction it will be seen that the liquid has a free and unimpeded passage through the uptake-pipe 2 by reason of the location of the connecting-rod 18 outside thereof, and the further advantage of thus obviating the necessity of packing for the rod and a flexible connection to the lever, as is usual in pumps of this character, is one of great value, as the construction is thereby simplified and cheapened, while giving a pump of greater efficiency and power.

The advantages of my improvement will be appreciated by those skilled in the art, as in addition to the features of merit already pointed out my pump is easy and cheap to construct, very durable, portable, and not likely to get out of order.

Changes and modifications may be made in its construction by the skilled mechanic without departing from my invention, and I do not desire to be limited to the form of construction shown in the drawings, but to include any variations therefrom involving the same principle, it being obvious that such

variations may be made within the scope of my invention as outlined in the following claim.

What I claim as new is—

- 5 In a spray-pump, in combination with a plunger-chamber provided with a reciprocating plunger and an intake-valve, a lateral opening leading from the base of the plunger-chamber outwardly and upwardly alongside  
10 of the plunger-chamber provided with a check-valve, and an uptake-pipe communicating at its base with the lateral opening; a hollow cap secured to the top of the uptake-pipe, an interior tube of reduced diameter  
15 projecting through the cap and downwardly into the uptake-pipe with an intervening air-space, an elbow-joint connecting with the top of the interior tube and with a spraying-tube, a laterally-extending flexible spraying-tube

so connected with the interior tube and with 20 an exit-nozzle, a laterally-projecting lever-fulcrum held on a reduced shoulder of the cap by a lock-nut screwed upon the threads of the projecting end of the interior pipe, a 25 lever pivoted at its end to the fulcrum, projecting across the top of the elbow-joint, provided with a handle and pivotally connected with a plunger in the plunger-chamber by a connecting-rod outside of the uptake-pipe and opposite to the fulcrum, substantially as 30 set forth.

In testimony whereof I have hereunto set my hand this 9th day of March, 1896.

MOSES C. HARRISON.

Witnesses:

PETER J. EDWARDS,  
C. M. CLARKE.