(No Model.)

F. M. STEVENS.

PUMP.

No. 341,180. Patented May 4, 1886.

Fig. 1.

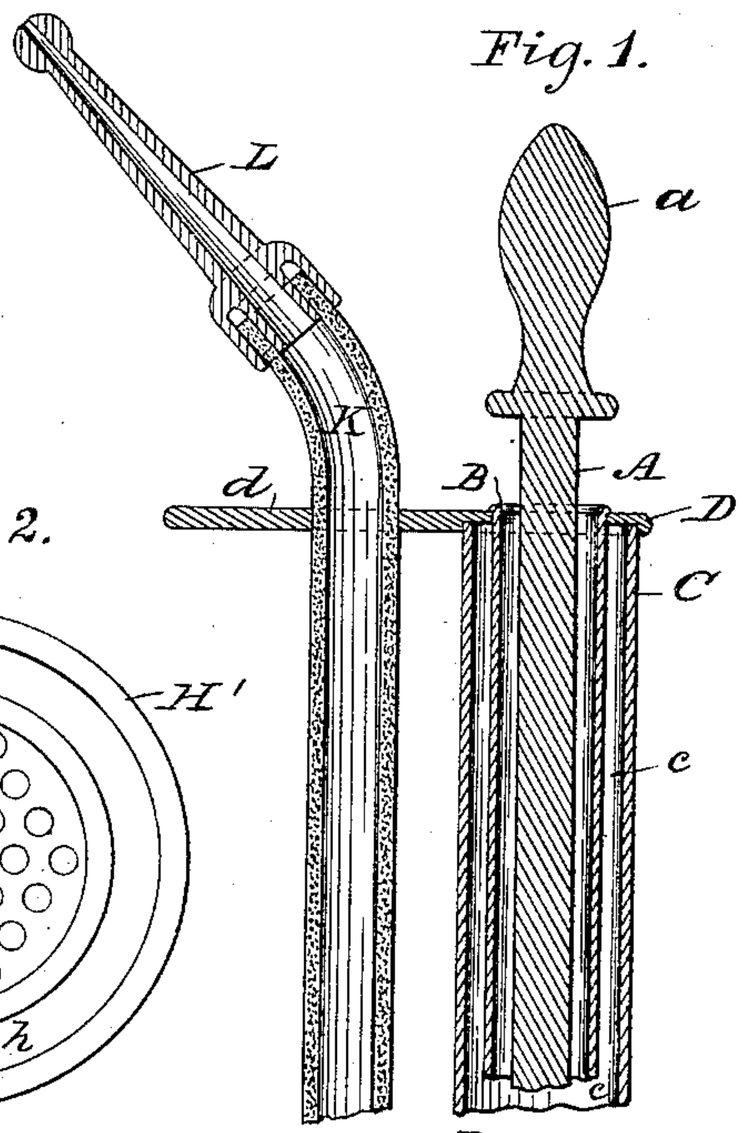


Fig. 2.

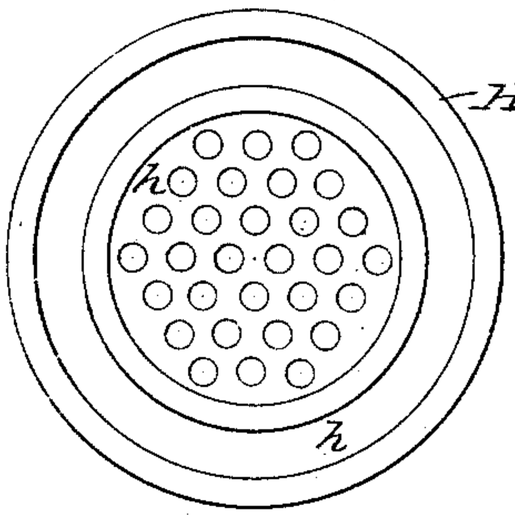


Fig. 3.

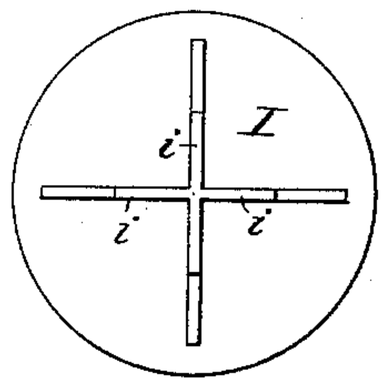
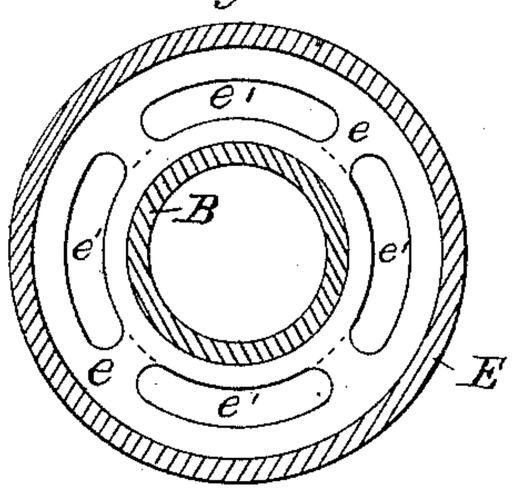


Fig. 4.



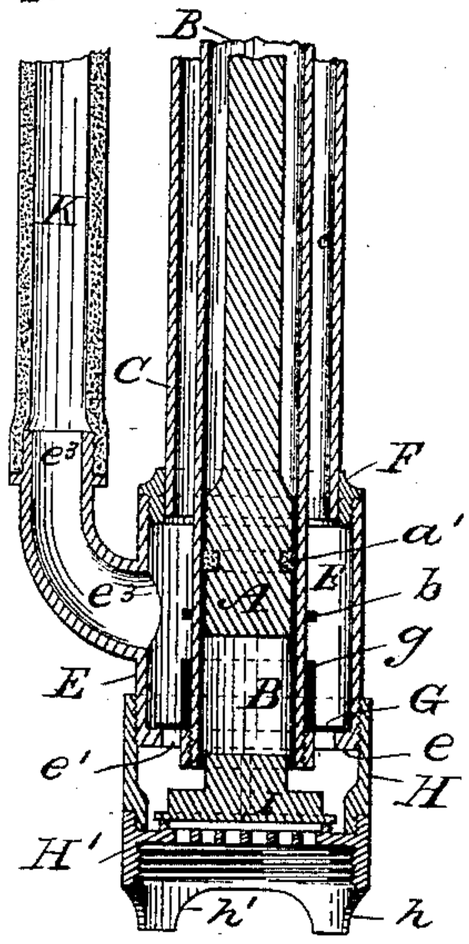


Fig. 7.

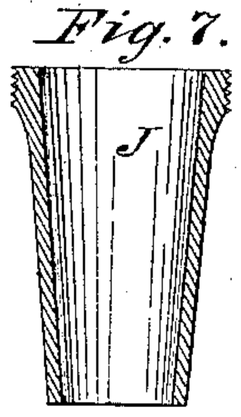


Fig. 5.

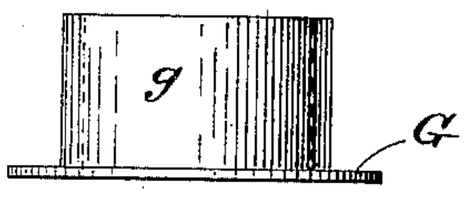
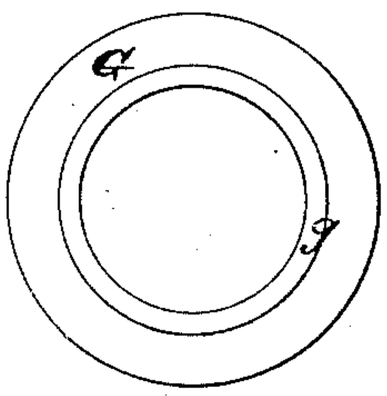


Fig. 6.



Witnesses.

F. A. Merrill

H. B. Hill.

Inventor.

F. M. Stevens

per J. B. Thurston

Attorney.

UNITED STATES PATENT OFFICE.

FRANK M. STEVENS, OF NEW YORK, N. Y., ASSIGNOR TO THE LEBANON PUMP COMPANY, OF LEBANON, NEW HAMPSHIRE.

PUMP.

SPECIFICATION forming part of Letters Patent No. 341,180, dated May 4, 1886.

Application filed April 29, 1885. Serial No. 163,811. (No model.)

To all whom it may concern:

Be it known that I, FRANK M. STEVENS, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Pumps, of which the following is a specification.

My invention consists in details of construction which will be described below, and pointed out in the claim.

In the accompanying drawings, forming part of this specification, Figure 1 shows a central vertical section of my improved pump, having a portion of its center broken away. Fig. 2 represents an enlarged plan view of that part of my pump in which is formed the seat for the suction-valve. Fig. 4 is an enlarged sectional plan view of that part of the pump to which the delivery-tube is attached, taken just below said tube and through the pump-barrel proper, and showing the inlet or receiving ducts. Fig. 3 is a plan view of the suction-valve enlarged. Figs. 5 and 6 are respectively an elevation and plan of the check-valve, also enlarged. Fig. 7 is a tapered suction-tube, one end of which is adapted to screw into the base of the pump, and the other to pass into a flexible hose when it is desired to bring the liquid from a distance.

The piston or plunger A may be formed of wood or metal, its upper end being provided with a suitable handle, *a*, either formed upon or attached thereto, and its opposite end being made a loose fit for the pipe or barrel B, and provided with suitable packing, *a'*. The said barrel B is inclosed within a tube or pipe, C, of larger diameter—say one-quarter or three-eighths of an inch, more or less—both said pipes or tubes B C terminating in a cap-piece, D, the outer tube, C, being threaded or soldered to said cap-piece, and the inner tube, B, being threaded or soldered to a circular opening made through said cap-piece formed concentric with said tube C. The tube C is shorter than the tube B, and its lower end terminates in the upper valve-chamber, E, having a bottom, *e*, perforated, as hereinafter described, and as it is preferable to make said valve-chamber of larger diameter than said tube C, the most convenient manner of connecting the two is by means of the collar F. The inner tube or pump-barrel B passes down through said valve-chamber, and is threaded to a concentric opening in the bottom *e*, surrounding which are formed the curvilinear slots *e'*. Said slots *e'* may be formed while casting said valve-chamber E; also, the center opening; but the latter must be trued in the lathe, and while doing this the inner surface of the bottom *e* should be faced off, so as to form a true seat for the check-valve G. This consists simply of a flat annular ring, G, of the proper size to cover said slots *e'*, formed upon the bottom and outside of a short tube or cylinder, *g*, which is bored to fit loosely over the pump-barrel B, for the purpose of guiding said valve. The lower valve-chamber, H, may be formed in one piece, but in the drawings I show it constructed of two parts, H H', the part H being merely a short cylinder threaded to the upper valve-chamber, E, and connected at the bottom to the part H', provided with a disk, *h*, perforated and forming a strainer, as shown in Figs. 1 and 2. Upon this disk *h* is formed a seat for the suction-valve, I, having walls *i*, which enter the bottom open end of the pump-barrel B, thus serving as a guide for said valve.

By forming the feet *h'* upon the bottom of the part H' this improved pump may be placed upon the bottom of a pail, tub, or barrel, and the water or other liquid be abstracted therefrom; but when it is desirable to bring the liquid from a distance a taper-pipe, J, may be threaded into said part H', and the opposite end be forced into one end of an ordinary garden-hose, the pipe J thus making a ready and inexpensive connection for this purpose. A flexible delivery-pipe is probably preferable, which may consist of a short piece of garden-hose, K, provided at its top with a suitable nozzle, L, the other end of said hose being fastened by means of the ordinary wire clamp to the hollow elbow e^3, formed upon and opening out of the upper valve-chamber, E.

The flexible delivery-pipe K may be supported parallel with the pump, if desired, by passing it through an opening for this purpose made in a projection, *d*, of the cap-piece D, as seen in Fig. 1, the outer end of which serving the purpose of a handle for supporting the

pump. A suitable stop or stops, *b*, should be secured to the pump-barrel B, as shown in Fig. 7, which will prevent the check-valve G from rising farther than need be.

Having described the various parts comprising my improved pump, I will now proceed to explain its operation. With the upward stroke of the piston A the suction-valve I is raised and the liquid drawn into the chamber H, thence into the pump-barrel B, following the piston A. With the return-stroke the suction-valve I is closed, and the liquid forces its way through the openings *e'*, raises the check-valve G, and passes thence, after having filled the air or storage chamber *c*, out by means of the hollow elbow e^3 through the delivery-pipe K and nozzle L.

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

The within-described pump, consisting of a valve-chamber, E, formed of a distinct piece, having an outlet, e^3, an integral bottom provided with slots for the admission of liquid, and a central perforation for reception of the lower end of the pump-barrel, the cylindrical flange-valve G *g*, for opening and closing valve-chamber E, the additional detachable valve-chamber H, provided with a perforated or strainer valve-seat, as shown, the valve I, adapted to operate therein as a suction-valve, the detachable piece H', connected to the piece H, for supporting the pump mechanism or receiving a tube, J, for connecting the pump, by means of a hose, with liquid matter at a distance, as described, the collar or reducer F, fixed to the top of the valve-chamber E, the pump-barrel provided with a piston, and projections *b b*, for arresting the upward movement of the valve G *g*, the cylinder C, surrounding the pump-barrel and connected to the reducer F in a manner to form a water and air chamber, communicating with the valve-chamber E, piece D, connecting the pump-barrel and surrounding cylinder, and adapted to form support for the hose K, when combined and arranged to operate in connection with each other, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK M. STEVENS.

Witnesses:

J. E. DEWEY,

GEO W. BRIGGS.