(No Model.

W. A. SPOONER.

PUMP.

No. 264,484. Patented Sept. 19, 1882.

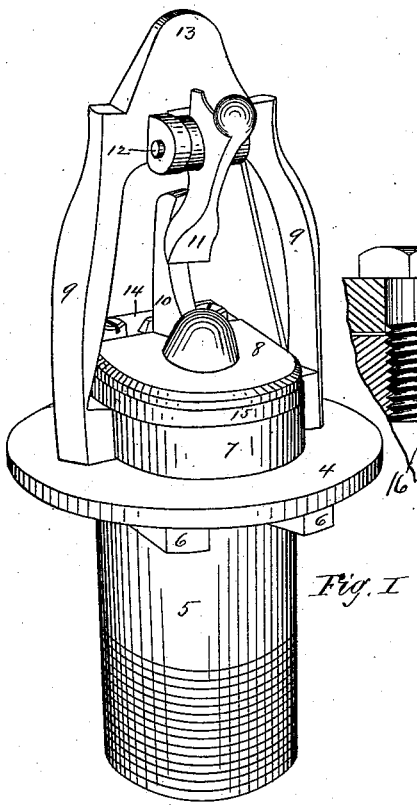

Fig. I

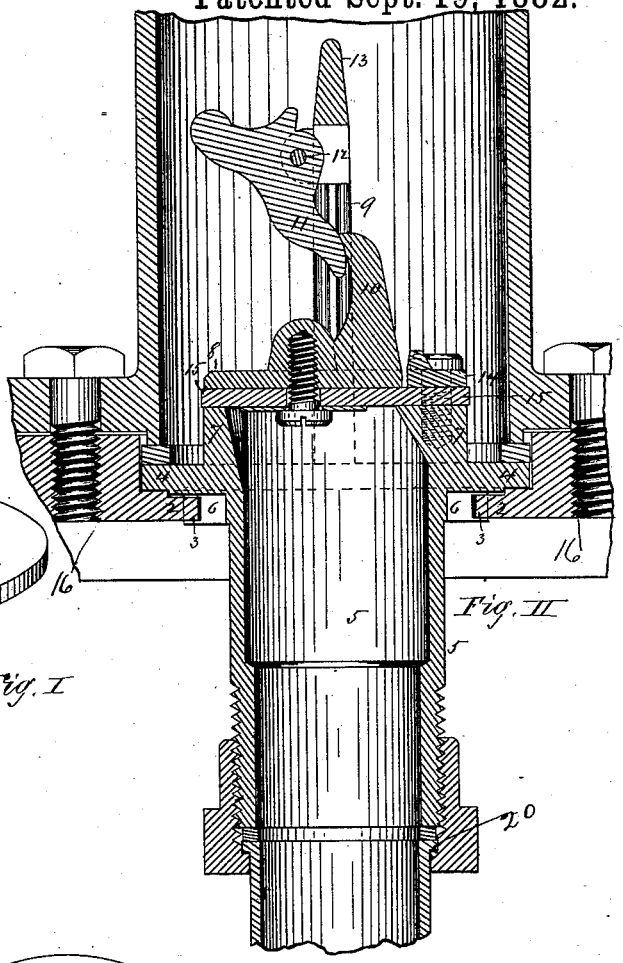

Fig. II

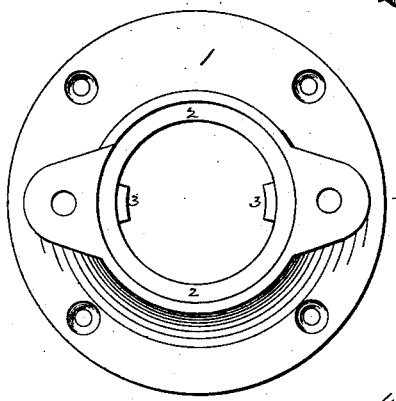

Fig. III

Witnesses.
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UNITED STATES PATENT OFFICE.

WILLIAM A. SPOONER, OF HARWINTON, CONNECTICUT.

PUMP.

SPECIFICATION forming part of Letters Patent No. 264,484, dated September 19, 1882.

Application filed April 22, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. SPOONER, of Harwinton, in the county of Litchfield and State of Connecticut, have invented a new and useful Improvement in Pumps, of which the following is a specification and description.

The object of my invention is to adapt the lower box of an ordinary suction-pump to be easily and conveniently secured in place in the base of the pump, and to adapt it to be coupled with the pipe which extends to the water-reservoir in that class of pumps whose lower end is flanged and bolted to a separate base; and I accomplish this by the mechanism substantially as hereinafter described, and illustrated in the accompanying drawings, in which—

Figure I is a perspective view of a lower pump-box constructed according to my invention and adapted to be secured in place in the base of a pump and coupled with the pipe which extends to the water-reservoir. Fig. II is a vertical longitudinal section of the same at the axis of the barrel which projects from its lower side, and showing the device as secured in place in the base of the pump, and also showing its barrel as adapted to be secured or coupled with the water-pipe; and Fig. III is a plan view of the pump-base made separate from the pump and adapted to be bolted or screwed to the floor or board which is to support the pump.

In the drawings, 1 represents a plate made of cast metal and having a central opening, with an annular interior flange, as 2, projecting from the plate into this opening, with one or more lugs, as 3, preferably of nearly the same thickness in a vertical direction as the flange 2. This plate is provided with screw or bolt holes, through which fastenings are inserted to secure it firmly in place, and is also provided with holes, as 16, to receive bolts or screws, by which the lower flanged end of the pump-tube is firmly secured thereto.

5 represents a short tube or barrel whose lower end is provided with an exterior screw-thread, and is provided at its upper end with an external annular flange, as 4, and extending upward a short distance above this flange is a hollow projection, as 7, whose interior diameter should be of substantially the same diameter as that of the barrel 5 below, in order to give a free passage for the water upward, and the upper end of this part, as 7, is squared off upon a true plane and forms a raised valve-seat for the valve, as 15. This valve may consist of any suitable flexible material—russet-leather being well adapted to the purpose—and may be of rectangular form on the back side, and secured to the seat on the back side by a metal bar, as 14, placed on top, with screws turned down through this metal bar, and also through the valve, as 15, firmly into the metal of the part, as 7, as shown clearly in Fig. II. A metal piece, as 8, is secured to the upper side of this leather, as 15, of sufficient size and weight to keep the leather pressed down firmly upon its seat; and this metal may be secured to the leather by a screw turned up from below through a washer on the under side of the leather and into the metal above, as shown clearly in Fig. II.

A projecting piece, as 9, may be made on the upper side of the disk, as 4, or from the exterior of the raised valve-seat, as 7, and this piece, as 9, may be of any desired shape, and which I denominate a "hanger;" and to this hanger, as at 12, is pivoted or suspended a trip, as 11, which is so weighted as to cause its lower end to impinge against the upwardly-projecting finger, as 10, made on the metal portion 8 of the valve.

If desired, the metal part, as 8, of the valve may extend back quite near to the metal bar, as 14, so that the valve may be limited or stopped in its tilting movement as the valve tilts upon its flexible portion between the bar, as 14, which secures it to the part 7, and that part to which the metal portion, as 8, is secured.

When the device is secured in place the barrel, as 5, is inserted down into the opening in the base 1, and the disk, as 4, is placed in the annular recess, as 18, in the base, and resting upon the flange, as 2, with suitable packing—as leather or rubber—between the disk and the flange, and with one of the lugs, as 3, on the base between two of the lugs, 6, on the lower side of the disk, the base 1 being first securely fastened to the floor, or to the platform which is to support the pump. The pump, having its lower end flanged, is then placed upon the disk, as 4, with suitable packing between, and

is firmly secured to the base by bolts or screws inserted through the flange on the lower end of the pump-tube and into or through the base, and the edge of the disk 4 is firmly clamped between the pump-tube and the base and making a tight joint. The upper end of the water-pipe, which is provided with an external shoulder or collar, as 20, is brought up against the lower end of the barrel, as 5, with suitable packing between, and the threaded coupling below the shoulder or collar 20 is brought up and turned upon the threaded lower end of the barrel 5 with a wrench until the packing is firmly clamped between the end of the water-pipe and the tube, and a water-tight joint is thereby made between the barrel 5 and the water-pipe, the engagement of the lugs, as 6, on the disk with that on the base preventing the disk and its barrel 5 from turning when the coupling is turned up firmly with the wrench. The valve-seat and its valve are then in firm position in the pump, and the water may be let out of the pump, and also out of the water-pipe below the valve, by raising the handle of the pump until the upper box strikes the upper end of the hanger 9, in which the upper extreme end, as 13, of the hanger projects up through the central opening of the upper box and raising its valve, while the said valve strikes down upon the upper end of the trip, as 11, causing its lower end to push against the finger and tilt the valve 15, which permits the water in the pump and in the water-pipe to run down the latter into the well, and in cold weather prevents its freezing in the pump.

When constructed as above described the pump may be set up and all the parts connected in a very few minutes, and if the seat of the valve on the upper end of the part, as 7, should become injured or need to be leveled up or smoothed off it may readily be done by removing the valve from its fastening at the back as the seat is raised, and may be readily smoothed off with a file, if desired.

It is evident that the water-pipe may be soldered to the lower end of the barrel 5 instead of being secured by a coupling, if it should be desired, without departing from the invention in the least.

Having thus described my invention, what I claim as new is—

The combination, in a pump, of a base having an internal flange, a disk adapted to be secured firmly into said base and provided on its lower side with a downwardly-projecting coupling-barrel for connection with a water-pipe, and provided on its upper side with a raised valve-seat, and also with a hanger projecting upward from said disk, and all made integral with said disk, a valve fitted to operate upon said valve-seat and provided with an upwardly-projecting finger, and a trip pivoted to said hanger with said finger, all substantially as described.

WILLIAM A. SPOONER.

Witnesses:
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