

E. E. RARDON.
 PNEUMATIC PUMP.
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1,230,028.

Patented June 12, 1917.

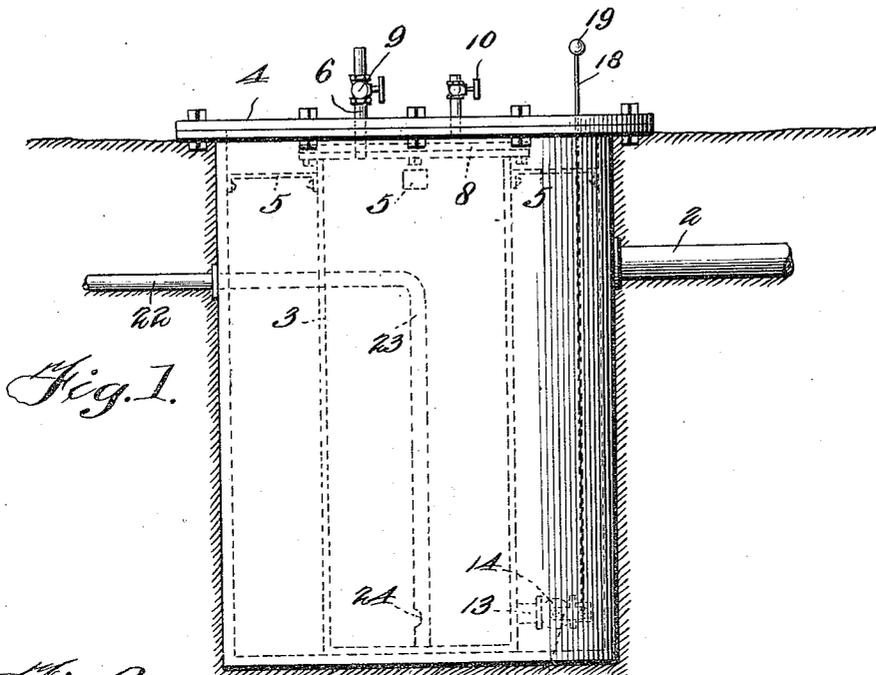


Fig. 1.

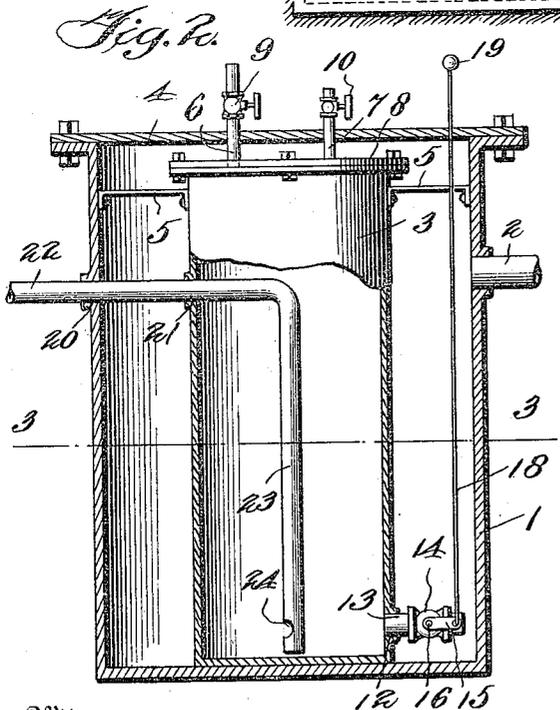


Fig. 2.

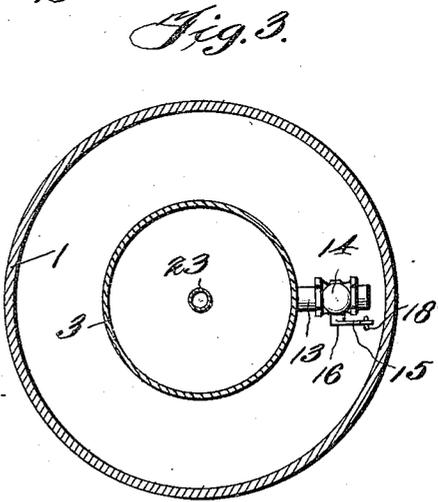


Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

EDWARD E. RARDON, OF HAMILTON, KANSAS.

PNEUMATIC PUMP.

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To all whom it may concern:

Be it known that I, EDWARD E. RARDON, a citizen of the United States, residing at Hamilton, in the county of Greenwood and State of Kansas, have invented certain new and useful Improvements in Pneumatic Pumps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to pumps and the primary object of the invention is to provide a pneumatic pump which is operable by compressed air, for forcing water under pressure, from a well, cistern or like retainer, to various parts of a house.

Another object of this invention is to materially simplify the construction of pumps of this nature, eliminating the employment of floats and the like, and providing manually operable means for controlling the passage of water through or into the pump.

With the foregoing and other objects in view this invention consists in such novel features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings and claimed.

In describing the invention in detail reference will be had to the accompanying drawings wherein like characters designate like or corresponding parts throughout the several views, and in which:—

Figure 1 is a side elevation of the improved pump, showing the same inserted in a cistern or well,

Fig. 2 is a vertical section through Fig. 1, and

Fig. 3 is a cross sectional view on the line 3—3 of Fig. 1.

Referring more particularly to the drawings, 1 designates a water retaining receptacle, which may be a well or a cistern, or any other desirable water retainer commonly in use. If the improved pneumatic pump is attached to a cistern, a water supply pipe indicated at 2, is provided for feeding the water into the cistern or receptacle.

A tank 3, which is substantially cylindrical shaped, is positioned centrally within the cistern or retainer 1, and extends upwardly therein having its upper end positioned a short distance downwardly from a floor or platform 4 of the receptacle. The tank 3 is held in its proper position against move-

ment, by suitable supporting arms 5, which are secured to the exterior of the tank and the interior of the wall of the receptacle.

The tank 3 has pipes 6 and 7 communicating with the interior thereof, and extending upwardly through the removable top 8 of the tank. The pipe 6 may be connected to any desired means, such as a compressed air storage tank or a compressed air pump, for supplying air under pressure to the interior of the tank 3. A valve 9 is interposed in the pipe 6 for controlling the passage of air therethrough.

The pipe 7 is provided for permitting of the exhaust of air out of the tank 3, and it has a valve construction 10 interposed therein for controlling the passage of the air outwardly therethrough.

The tank 3 has a water inlet opening formed in one side thereof adjacent its lower end, to which inlet opening is connected a pipe 13. A valve 14, is provided for controlling the passage of water through the pipe 13 and into the tank. The valve 14 has an arm 15 connected to the valve stem thereof. A rod 18 is connected to the arm 15 and extends upwardly through the receptacle 1 and outwardly through the top or platform 4 of the same, having a handle 19 mounted upon its upper end to provide for the manual manipulation of the rod 18 for controlling the passage of water through the valve 14.

The receptacle 1 and the tank 3 are provided with openings 20 and 21 extending therethrough respectively, a short distance downwardly from their upper ends. The openings 20 and 21 are positioned in alignment with each other and have extending therethrough a conduit 22. The conduit 22 extends into the tank 3 and is bent upon itself, forming a downwardly extending section 23, which extends downwardly substantially at right angles to the horizontal portion of the conduit.

The vertically disposed end 23 of the conduit 22 extends downwardly within the tank 3, and is positioned centrally therein, having an opening 24 formed therein, a short distance upwardly from the lower end of the pipe or conduit. The opening 24 is provided for permitting of the inlet of water into the conduit 22, from whence it passes or is conveyed to any suitable location.

In the operation of the improved pneu-

matic pump heretofore described: When it is desired to force water through the conduit 22 under pressure, the valve 14 is operated, by manually moving the rod 18, which opens the valve 14 and permits water to flow into the tank 3. When the valve 14 is opened, the valve 10 is also opened, to permit of the escape of the air out of the tank 3, upon the rising of water therein. After the tank has been properly filled, the valves 10 and 14 are manually closed, but the valve 9 is opened, for admitting air into the tank 3, under pressure. The air entering the tank 3 under pressure will force the water contained in the tank upwardly and out through the conduit 22 to the desired location.

The platform 4 of the receptacle 1 and the cover 8 of the tank 3 are removable, so that access may be gained to the interior of the receptacle in the tank for the purpose of cleaning them, maintaining the sanitation thereof.

From the foregoing description taken in connection with the accompanying drawings the advantages of construction and of the method of operation of the improved pump will be readily apparent to those skilled in the art to which this invention appertains and, while in the foregoing description, the principle of the operation of this invention has been described together with various features of construction, it is to be understood that certain minor features of construction, combination and arrangement of parts may be altered to suit practical conditions provided such alterations are comprehended within the scope of what is claimed.

What is claimed is:—

A pump, an outer tank or receptacle, a water supply pipe secured to and com-

municating with said receptacle adjacent the upper end thereof, a removable cover secured to the upper end of said receptacle, an inner tank positioned within the outer tank and resting upon the inner side of the bottom wall thereof, and means for rigidly securing the inner tank to the walls of the outer tank concentrically related thereto, pipes extending through the cover into the inner receptacle and communicating therewith, means for controlling passage through these pipes, said inner tank provided adjacent its lower end with an inlet opening, a pipe arranged in said inlet opening and communicating therewith, a valve arranged in said pipe, an arm connected with said valve, a rod connected with said arm and extending upwardly through the removable cover of the outer tank and its outer end constituting a handle whereby the valve may be operated for controlling the supply from the outer tank into the inner tank, said outer and inner tank provided adjacent their upper ends with alined openings the conduit extending through said openings having one end positioned at the inner tank with its opposite end located on the exterior of the outer tank said conduit being substantially L-shaped and having its longer arm positioned within the inner tank and terminating adjacent the bottom thereof in the inner end provided with an opening permitting of the inlet of the water to the conduit thus conveying it from the inner tank as and for the purpose specified.

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

EDWARD E. RARDON.

Witnesses:

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