J. R. HAFSTROM.

AIR PUMP.

APPLICATION FILED JAN. 30, 1920.

1,386,567. **Patented Aug. 2, 1921.**

Fig. 1.

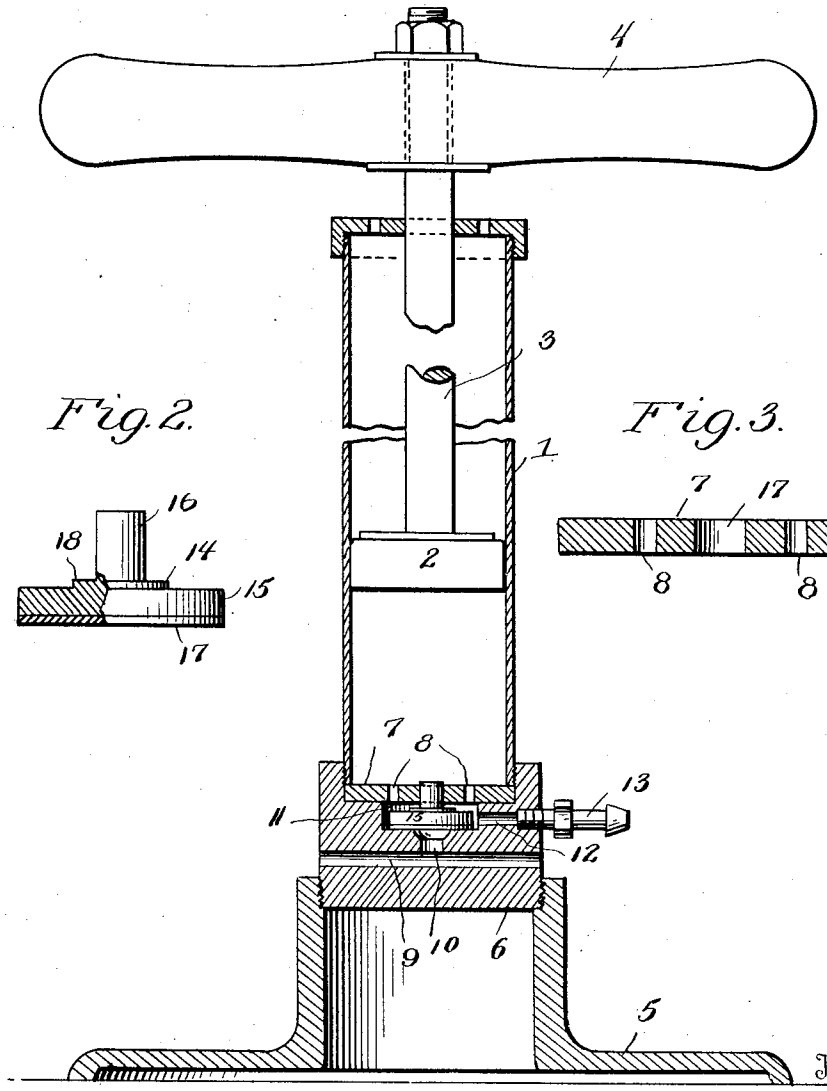


Fig. 2.

Fig. 3.

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JOHN R. HAFSTROM, OF MOROCCO, INDIANA.

AIR-PUMP.

1,386,567. Specification of Letters Patent. Patented Aug. 2, 1921.

Application filed January 30, 1920. Serial No. 355,230.

To all whom it may concern:

Be it known that I, JOHN R. HAFSTROM, a citizen of the United States, residing at Morocco, in the county of Newton and State of Indiana, have invented new and useful Improvements in Air-Pumps, of which the following is a specification.

This invention relates to an air pump and has for its primary object the construction of an air pump in which the valve will be more positive in its operation and association with the other elements in a manner to allow the same to be readily replaced or renewed.

An object of the invention is the novel manner of forming the air passages in combination with the vertical movable valve disk so that leakage will be positively prevented in the operation of the pump.

Besides the above my invention is distinguished in the novel manner of constructing and associating the parts so that they may be readily assembled and thereby reduce the expense of the pump.

With these and other objects in view the invention will be better understood from the following detailed description taken in connection with the accompanying drawing wherein—

Figure 1 is a vertical sectional view of my pump partly broken away.

Fig. 2 is a detailed view of the valve.

Fig. 3 is a sectional view through the plate.

Again referring to the drawing illustrating one construction of my invention 1 designates a barrel in which moves the usual piston 2 that is connected by a rod 3 to a handle 4. 5 designates a base which is connected to the barrel by a coupling 6. It will be noted that the coupling 6 is screw threaded to the base but I wish it to be understood that in practice, if found advantageous, the coupling and base will be formed in one piece. The coupling is screw threaded to the barrel, and clamped between the barrel and the coupling is a plate 7. This plate 7 is provided with air ports 8 for the purpose hereinafter described. The coupling is provided with a T shaped air intake passage 9, the vertical branch 10 of which communicates with the air chamber 11. This chamber 11 also communicates with an air outlet 12 communicating with a plug 13 to which the hose may be connected.

A very important feature of my invention is the construction and arrangement of the valve 14. It will be noticed that this valve consists of a disk 15 provided with a stem 16 slidably mounted in the plate 7 in a manner that the resilient facing 17 thereof will cover the branch 10 when the disk valve gravitates to its normal position. A shoulder 18 is formed on the disk so as to prevent the latter from covering the ports 8 when the valve is moved to position to uncover the branch 10.

From the foregoing description it will be seen that I provide a valve for a pump that is positive in its operation and will absolutely prevent any leakage during the operation of the pump. It will also be noted that the arrangement of the passages, chamber, and various parts is such as to readily allow cleansing of the parts so as to insure efficient operation of the valve at all times.

It is, of course, to be understood that the invention may be constructed in various other manners and the parts associated in different relations and, therefore, I do not desire to be limited in any manner except as set forth in the claims hereunto appended.

Having thus described my invention what I claim is—

1. In a pump, a barrel, a reciprocatory piston therein, a coupling carried by said barrel and provided with a chamber therein opening out toward said barrel, a perforated plate between said chamber and barrel and having its perforations registering with said chamber, said coupling provided with passageways therein forming an inlet and an outlet for said chamber, a disk valve seated in said chamber, and a valve stem on said valve slidably engaged in said plate, said valve operable upon reciprocation of said piston to control the inlet and outlet of air into and from said barrel.

2. In a pump, a barrel, a reciprocatory

piston therein, a coupling carried by said barrel and provided with a chamber therein opening out toward said barrel, a perforated plate between said chamber and barrel and having its perforations registering with said chamber, said coupling provided with passageways therein forming an inlet and an outlet for said chamber, a disk valve seated in said chamber, said valve operable upon reciprocation of said piston to control the inlet and outlet of air into and from said barrel, said disk valve having a shoulder formed thereon to prevent closing of the perforations in said plate by the disk valve.

In testimony whereof I affix my signature.

J. R. HAFSTROM.