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1,548,981

G. CLARK

DOUBLE ACTING SUCTION AND FORCE PUMP

Filed Sept. 16, 1924

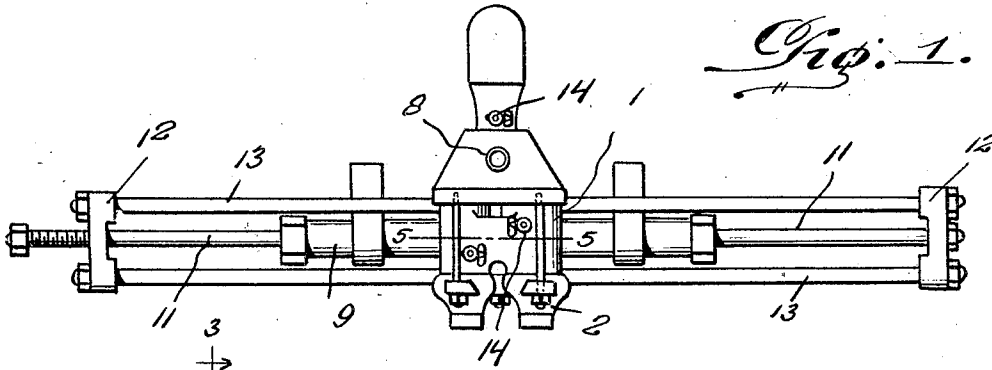


Fig. 1.

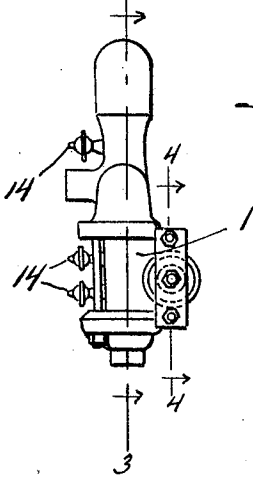


Fig. 2.

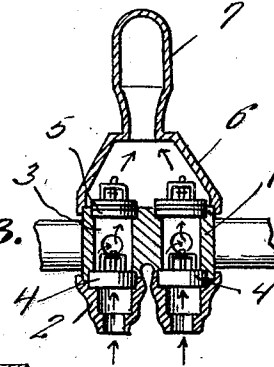


Fig. 3.

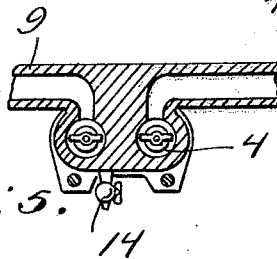


Fig. 4.

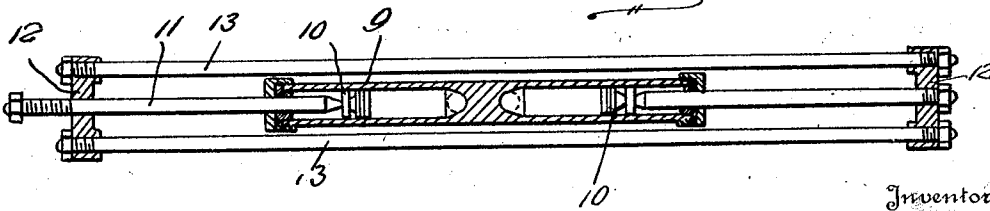


Fig. 5.

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UNITED STATES PATENT OFFICE.

GLENN CLARK, OF CHANUTE, KANSAS.

DOUBLE-ACTING SUCTION AND FORCE PUMP.

Application filed September 16, 1924. Serial No. 738,061.

To all whom it may concern:

Be it known that I, GLENN CLARK, a citizen of the United States, residing at Chanute, in the county of Neosho and State of Kansas, have invented certain new and useful Improvements in Double-Acting Suction and Force Pumps, of which the following is a specification.

This invention relates to double acting suction and force pumps, and it consists in the novel features hereinafter described and claimed.

An object of the invention is to provide a pump of the character stated, which is of simple and durable structural arrangement, having its parts and features compactly assembled and arranged, whereby the structure occupies but little space, and may be economically operated, for efficiently drawing and forcing liquids and compelling the same to flow from the pump in a continuous and uniform stream.

In the accompanying drawing:

Figure 1 is a side elevational view of the pump.

Figure 2 is an end elevational view of the same.

Figure 3 is a fragmentary sectional view of the pump, on the lines 3—3 of Figure 2.

Figure 4 is a sectional view, cut on the lines 4—4 of Figure 2.

Figure 5 is a fragmentary horizontal sectional view of the pump cut on the line 5—5 of Figure 1.

As illustrated in the accompanying drawing, the pump structure includes a body 1, having nipples 2 applied to the lower side thereof and which communicates with chambers 3 provided in the interior of the body 1.

Check valves 4 are located within the nipples 2 at the lower ends of the chambers 3 and check valves 5 are mounted at the upper ends of the chambers 3. A hood 6 is mounted upon the body 1 and is disposed above the upper ends of the chambers 3. An air chamber 7 is provided at the top of the hood 6. The hood 6 is provided at its side with a liquid outlet 8. Cylinders 9 communicate at their inner ends with the chambers 3 and 4, between the valves 4 and 5. Pistons 10 are mounted for reciproca-

tory movement in the cylinders 9 and are connected with stems 11, which in turn are connected with cross heads 12 mounted upon rods 13 adapted to move transversely of the body 1.

Any suitable operating means (not shown) may be connected with one of the stems 11 and with the rods 13, for reciprocating the same in a usual manner. The chamber 3 and the hood 6 are provided with drain cocks 14 of conventional form, and which may be manipulated to drain the said chambers and the hood of their contents when desired.

In operation, it will be seen that when the pistons 10 are reciprocated in the cylinders 9, by the movement of the rods 13 and the stems 11 as hereinbefore indicated, the liquid will be drawn through the nipple 2, and past the valve 4 into the chamber 3, and from the said chambers will be drawn into the cylinders 9. Continued reciprocatory movement on the part of the piston 10 will force the liquid from the cylinders 9, past the valve 5 into the hood 6 and from the hood 6 the liquid is passed in a continuous stream through the outlet opening 8. The air, which is confined in the chamber 7, subjects the flow to a pressure, and consequently the flow is rendered uniform.

Having thus described the invention, what is claimed is:

A pump including a body having vertically disposed chambers spaced from each other, check valves located at the top and bottom ends of the chambers, horizontally disposed and aligned cylinders having curved ends communicating with the chambers between the check valves, nipples depending from the chambers, pistons mounted for reciprocatory movement in the cylinders, means for reciprocating the pistons in the cylinders, and a hood disposed over the body and the chambers thereof and having a liquid outlet opening and provided with a chamber above the liquid outlet opening.

In testimony whereof I affix my signature.

GLENN CLARK.