(No Model.)

J. K. VAN PELT.

DOUBLE ACTING PUMP.

No. 362,681. Patented May 10, 1887.

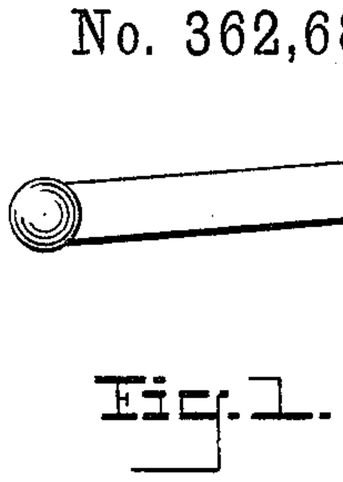

Fig. 1.

Fig. 2.

WITNESSES:

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JOHN K. VAN PELT, OF NASHVILLE, TENNESSEE.

DOUBLE-ACTING PUMP.

SPECIFICATION forming part of Letters Patent No. 362,681, dated May 10, 1887.

Application filed February 7, 1887. Serial No. 226,780. (No model.)

To all whom it may concern:

Be it known that I, JOHN K. VAN PELT, of Nashville, in the county of Davidson and State of Tennessee, have invented a new and Improved Double-Acting Pump, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved double-acting pump which is simple and durable in construction and easy in operation.

The invention consists of various parts and details hereinafter more fully described, and pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a side elevation, partly in section, of my improvement; and Fig. 2 is a sectional plan view of the same on the line *x x* of Fig. 1.

The cylinders A and A′ are cast on a base, B, provided with the suction-pipe C, having two branches, C′ and C², which open, respectively, into the bottom of the cylinders A and A′, and are each covered with a hinged valve, D, which opens upwardly. In each of the cylinders A A′ is placed a plunger, E, connected by the plunger rod F with the pump-beam G, of any suitable construction.

Between the cylinders A A′ is arranged the central valve-seat, H, which connects at each side by the channels I and I′, respectively, with the said cylinders A and A′. In the valve-seat H is placed the check-valve J, composed of two parts, each having a dovetailed facing, J′, and both forming at their lower ends a half-round projection, J², which fits a corresponding groove, K, formed in the bottom of the valve-seat H. Instead of providing the lower end of the valve with the half-round projection J², I may provide the lower end of the valve with pins or trunnions to hold the valve in place, and also to form the fulcrum for the same.

The half-round projection or the said pins are the pivotal center from which the valve J swings either to the right or left, as the case may be, the valve being somewhat smaller than its seat, so as to establish alternately a connection between either of the chambers I or I′ and the outlet-pipe M, which opens at its bottom into the top of the valve-seat H. The side openings of the valve-seat H are closed by the covers N and N′, preferably seated on gaskets to form a water-tight joint, and held in place by a bolt, O, passing through the center of the valve, and a nut, O′, screwing on the outer threaded end of the bolt O against one of the covers.

The operation of the pump is as follows: When the pump-beam G is set in motion, then the suction of the plungers E in the cylinders A and A′ causes the valves D to open alternately and permits the water or other liquid to be pumped to flow into the respective cylinder A or A′. The downward motion of the plungers E seats the valve D and forces the liquid into the channel I or I′ and against the valve J, which is then thrown to the opposite side, and thereby permits the liquid to enter the outlet-pipe M, and at the same time closes the opposite channel I or I′. A constant motion of the pump-beam G produces a continuous outflow of liquid through the pipe M. The facings J′ of the valve J are of a suitable composition and can be easily replaced when worn out, and the valve J can at any time be inspected or taken out from its seat H by removing the cover N.

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

A double-acting pump comprising the cylinders A A′, valved branches C′ C², the discharge-pipe M, the circular valve-recess H at the base of pipe M and having a recess, K, the channels I I′, the valve J, formed of two sections having the flat recessed faces which rest against each other, curved outer faces, and half-round projection on their lower ends fitting in the recess K, the plates N N′, closing the ends of the recess H, and the securing-bolt O, passing through said end plates and recess in the valve, substantially as set forth.

JOHN K. VAN PELT.

Witnesses:
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