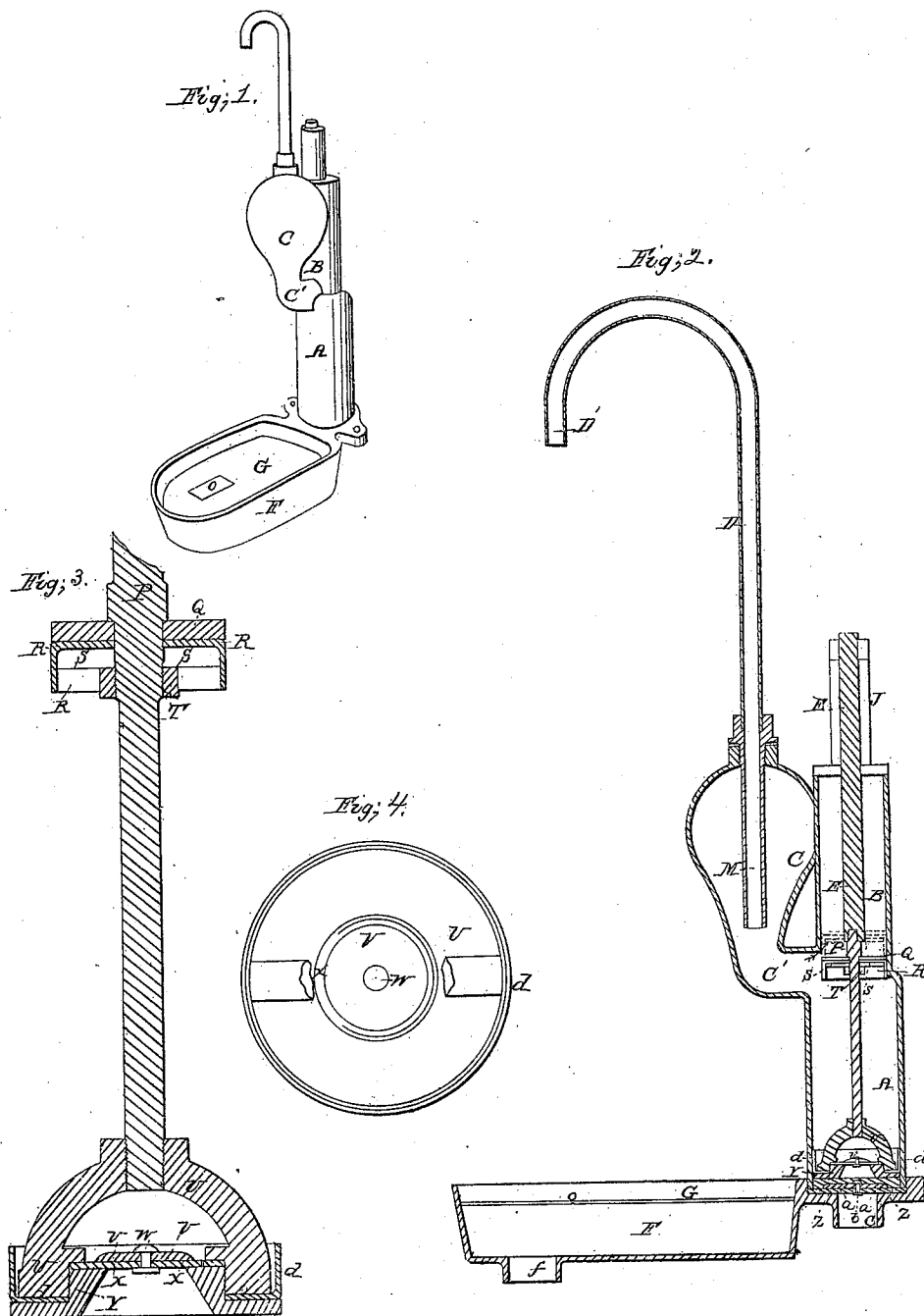


*J. Selser,*

*Force Pump,*

*N<sup>o</sup> 23,953.*

*Patented May 10, 1859.*



# UNITED STATES PATENT OFFICE.

JOHN SELSER, OF WILLIAMSPORT, PENNSYLVANIA.

## PUMP.

Specification of Letters Patent No. 23,953, dated May 10, 1859.

To all whom it may concern:

Be it known that I, JOHN SELSER, of Williamsport, in the county of Lycoming and State of Pennsylvania, have invented certain new and useful Improvements in Pumps; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a perspective view Fig. 2 is a vertical section Fig. 3 is a section through center of plunger head and bucket alone, and Fig. 4 is a top view of lower bucket alone.

Similar letters of reference indicate like parts in all the drawings.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation by the aid of the drawings.

*Construction.*—A, B, C, cast together, and fixed upright as represented, are respectively a cylinder, a smaller cylinder, and an air chamber. A vertical rod E P lies in the central or axial line of the cylinders A B, and is caused to reciprocate by any ordinary means. To its lower extremity is secured a valved box U V Y, which by the aid of the packing or cup-leather *d* works tightly in the larger cylinder A. A solid piston Q S is also fixed on the rod P at the point represented and by the aid of the packing R works tightly in the smaller cylinder B. The air chamber C connects to both A and B by means of the neck C' in the manner and degree represented, and the water received into C is discharged in the ordinary manner through a pipe M. The pipe D, connected to M, is extended to any height desired. It bends and descends vertically for a little distance near its extremity as represented by D'.

The casting A B C with its attachments is fixed on the pan or bed F which latter has a flaring form and is provided with an orifice *f* through which it is freely drained. A plate G with a single orifice O is fitted in the interior of F as a kind of cover therefor, and the orifice O is directly beneath the terminus D' of the discharge pipe. In case the pipe D is extended upward to a great height, as from the basement to the upper stories of a house, or in case the body of the pump A B C is placed beneath the well

floor for any cause, the pan F, or another equivalent thereto, and equally provided with a plate G, is employed at a higher level and secured to the pipe D instead of to the cylinder A.

*Operation.*—When by means of the handle H, gear I, and rack E' or any other suitable means, the rod E P is compelled to traverse alternately up and down, water is sucked in through the valve *a z* and forced out through the neck C' and pipe M, the fluid following the piston Q S up into the cylinder B and returning at each double stroke. When the pump is operated, the descent of the rod E P should be only sufficient to bring the piston Q S to the position indicated by the red outline; but when the pumping is ended the operator may, by depressing the rod E P to the position represented by the black lines, allow the water to flow from C' into the space above Q S, from whence it freely flows over or escapes through a passage for the purpose not represented, and thus allows all the water in the standing pipe D to sink to the level of the top of the cylinder B.

A pump is more easily protected from extremes of temperature than is a force pipe, especially when the latter rises to a considerable height. The cylinders A and B and the lower portion of the air chamber C are by this invention always kept full of water and consequently the valves and packing are in proper condition to commence pumping at any moment, while the pipe D is immediately emptied so soon as a sufficient quantity has been pumped, thus avoiding the destructive effect of the frost in the pipe D in winter and the disagreeable warming of the water therein in summer, without involving the disadvantage of allowing the pump itself to become dry.

The terminus D of the discharge pipe being straight and accurately vertical, the stream discharged always descends in the same line whether the pump be worked rapidly or slowly. The opening O in the plate G is a little larger than the maximum size of the stream at that point;—the stream of water consequently descends through this hole without touching the sides, and impinging directly upon the bottom of the pan or bed F all the splashing incident to such operation is confined beneath the plate G.

In pumps as heretofore arranged water is liable to splash upon the floor and other

articles in the vicinity, thereby causing more or less damage. In my invention this evil is measurably avoided, as whenever water is pumped either moderately or violently, 5 and there is no vessel interposed to receive it, the upward splashés due to the impact of the stream are all stopped by the plate G. This plate is easily removed to allow the space beneath to be cleaned.

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

1. Draining the standing pipe D and relieving the air chamber C from pressure by

allowing the water to escape upward through 15 the cylinder B whenever the plunger rod E is sufficiently depressed, thereby draining the pipe without draining the pump itself, substantially in the manner herein set forth.

2. The splash plate G with its aperture O, 20 when used in connection with the vertical termination D' of the discharge pipe, substantially as and for the purpose within set forth.

JOHN SELSER.

Witnesses:

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GEO. A. SNYDER.