

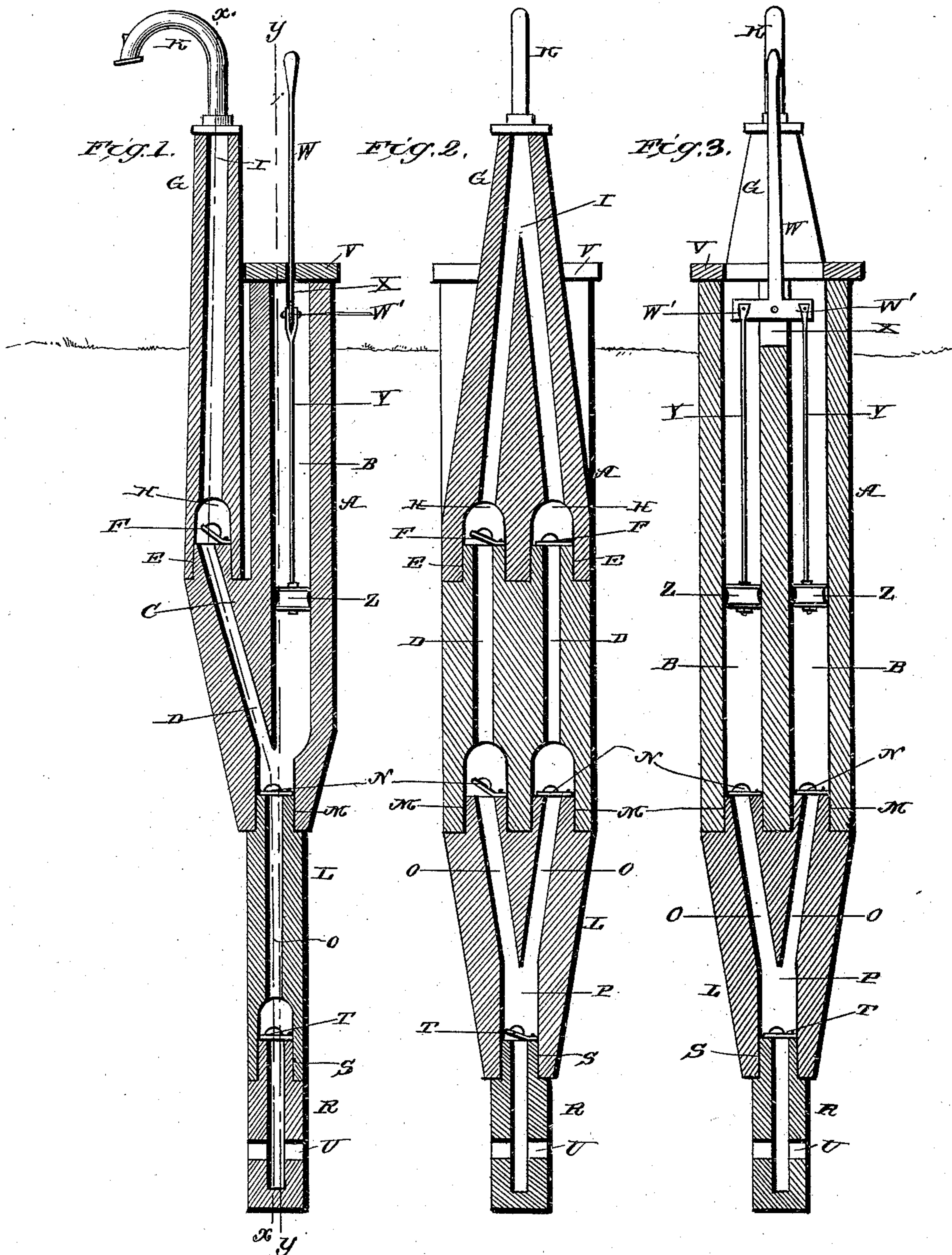
(No Model.)

B. S. RAYBUCK.

FORCE PUMP.

No. 371,972.

Patented Oct. 25, 1887.



WITNESSES

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UNITED STATES PATENT OFFICE.

BALTHASER S. RAYBUCK, OF FREED, WEST VIRGINIA.

FORCE-PUMP.

SPECIFICATION forming part of Letters Patent No. 371,972, dated October 25, 1887.

Application filed May 17, 1887. Serial No. 238,529. (No model.)

To all whom it may concern:

Be it known that I, BALTHASER S. RAYBUCK, a citizen of the United States, residing at Freed, in the county of Calhoun and State of West Virginia, have invented a new and useful Improvement in Force Pumps, of which the following is a specification.

My invention relates to an improvement in force-pumps; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claim.

In the drawings, Figure 1 is a vertical sectional view of a force-pump embodying my improvement. Fig. 2 is a vertical sectional view of the same, taken on the line $x x$ of Fig. 1. Fig. 3 is a similar view of the same, taken on the line $y y$ of Fig. 1.

A represents the main portion of the pump-stock, which is made of wood, and is provided with a pair of vertical parallel bores or openings, B, which extend from its upper to its lower end. On the front side of the main portion A is formed an offset or shoulder, C, provided with a pair of inclined channels, D, which communicate at their lower ends with the bores B, and the upper end of the said shoulder or offset is provided with a pair of upwardly-extending projections, E, which communicate with the channels D, and are provided on their upper ends with upwardly-opening weighted valves F.

G represents the discharge portion of the pump-case, which is also made of wood, and is provided at its lower end with a pair of vertical recesses, H, adapted to fit on the upper ends of the projections E. The said recesses communicate at their upper ends with a single vertical bore or channel, I, and to the upper end of the section G is bolted a discharge-spout, K.

L represents the lower section of the pump-case, which is provided on its upper end with a pair of cylindrical projections, M, adapted to enter the lower ends of the vertical bores B, and the said projections are provided on their upper sides with weighted upwardly-opening valves N. The lower section, L, is provided with a pair of downwardly-converging channels, O, which unite with a single vertical bore, P, in the lower end of the section L.

R represents the pump-tube, which is also made of wood, and the length of which is varied according to the depth of the well or the distance the water has to be elevated. The upper end of the said pump-tube is reduced in size to form a stud, S, adapted to fit in the lower end of the bore P, and on the upper end of the said stud is secured an upwardly-opening weighted valve, T. The lower end of the pump, which is submerged, is provided with openings U, (one or more,) communicating with the bore of the said tube.

From the foregoing description it will be readily understood that the sections of the pump stock or case are adapted to be readily taken apart, so as to expose the valves and permit the said valves to be repaired when necessary.

On the upper end of the main section A is secured a cap, V. W represents a lever, which extends downward through the cap V, and is fulcrumed in a recess, X, formed in the upper portion of the main section of the pump-stock between the bores B. This lever W is provided at its lower end with oppositely-extending arms W', to which are pivoted the rods Y of solid plungers or pistons Z, which are located in the bores of the main section of the pump-stock and adapted to be reciprocated vertically in opposite directions simultaneously when the lever W is operated, as will be very readily understood.

When the lever W is moved in one direction, one of the plungers therein is raised, thereby causing a partial vacuum to be formed beneath it, and the water from the well is sucked up through the valve T and through the valve N, below the said plunger. At the same time the opposite plunger or piston is descending, which causes the valve N beneath it to be closed and the valve F in the channel, communicating with its bore, to be opened, so that the water beneath the said descending plunger will be forced upward and discharged from the spout K. The pump is thus double-acting, and the result is that a continuous stream of water at considerable pressure is forced through the spout K when the lever W is operated.

A flexible tube may be connected to the spout K and water forced through the same from the pump to any desired point.

I have made and practically tested a pump such as hereinbefore described, and find that I can force forty-four gallons of water per minute a distance of one hundred and twenty feet therewith.

Having thus described my invention, I claim—

In a double-acting force-pump, the combination of the main portion A, having the parallel vertical bores B, and provided on one side with the offset or shoulder having the channels D communicating with the lower portions of the bores B and provided with the vertical projections E, the valves F on the upper ends of the said projections, the sections G, having the spout K, and the channels communicating with the said spout, the said channels meeting at their upper ends and having their lower ends enlarged to form recesses H, adapted to receive the upper ends of the projections E, the lower section, L, having the

projections M, adapted to enter the lower ends of the bores B, and provided with the upwardly-opening valves N and the downwardly-converging meeting channels O, the pump-tube R, having the reduced upper end communicating with the channels O and provided with the upwardly-opening valve P, the solid plungers arranged in the bores B, the lever W, fulcrumed in a recess in the upper end of section A, between the bores B, and having the opposite extending arms, W', and the rods Y, connecting the said arms to the plungers to reciprocate the latter simultaneously in opposite directions, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

BALTHASER S. RAYBUCK.

Witnesses:

A. G. AYERS,
M. AYERS.