

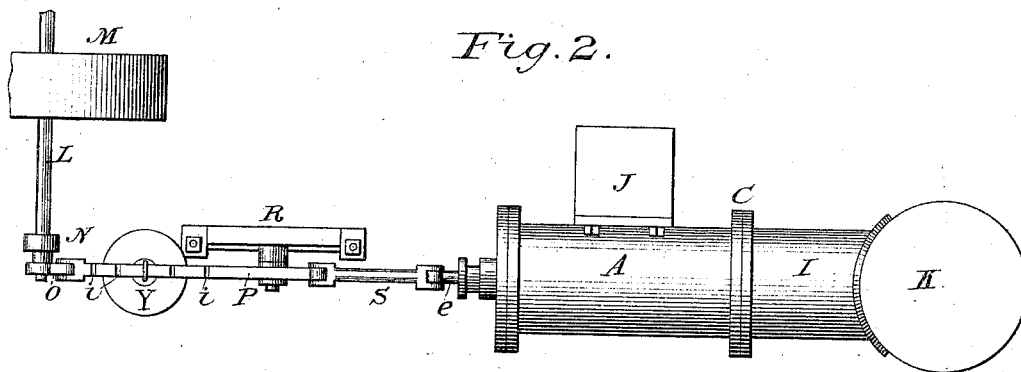
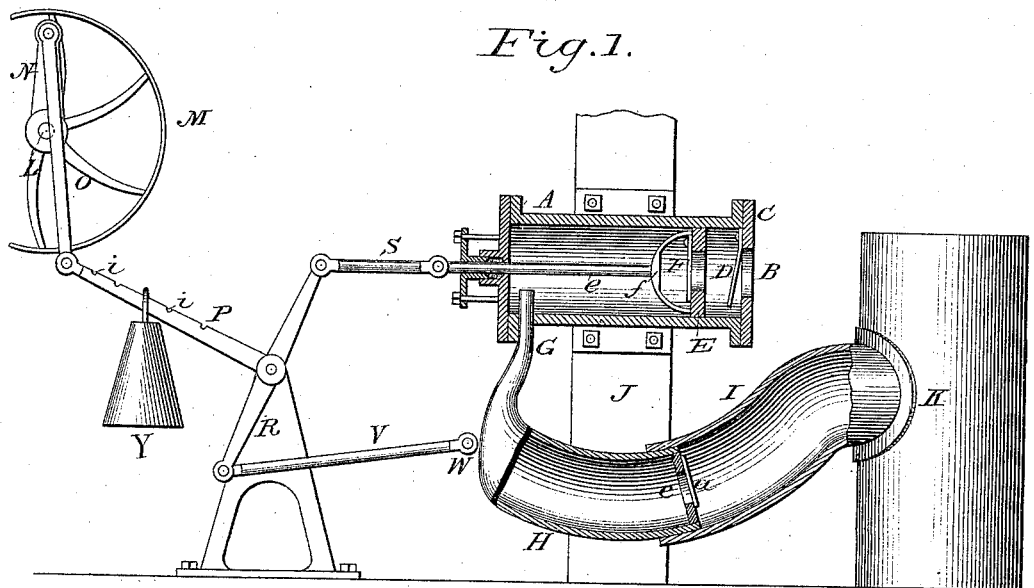
(No Model.)

H. S. RAMSEY.

BALANCED PUMP.

No. 301,273.

Patented July 1, 1884.



Witnesses:
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UNITED STATES PATENT OFFICE.

HALEY S. RAMSEY, OF COMANCHE, TEXAS.

BALANCED PUMP.

SPECIFICATION forming part of Letters Patent No. 301,273, dated July 1, 1884.

Application filed February 25, 1884. (No model.)

To all whom it may concern:

Be it known that I, HALEY S. RAMSEY, a citizen of the United States, residing at Comanche, in the county of Comanche and State of Texas, have invented a new and useful Balanced Pump, of which the following is a specification.

My invention relates to improvements in balanced pumps having a horizontal cylinder provided with a horizontally-reciprocating plunger, and a curved cylinder placed directly under it, provided with a curved plunger, both having suitable valves operating automatically in conjunction therewith; and the objects of my improvements are, first, to provide a pump by means of which air, water, or other fluids may be conducted or raised with but little propelling power; second, to afford facilities for readily attaching it to be driven by any steam-engine or motive power; and, third, to admit of its quick adjustment to force from the smallest quantity to its full capacity. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical elevation of the machine, partly in section; Fig. 2, a top view of the same.

Similar letters refer to similar parts throughout the several views.

The horizontal cylinder A (shown attached to post J) has an opening, B, in cylinder-head C, which is closed by valve D when the plunger E moves toward it. Through this opening the fluid to be conducted enters as the plunger E moves from it. This plunger also has an opening of suitable size through its center, and a valve, F, covering it, which forces the fluid that has passed through the plunger out of cylinder A down through flexible conductor G, and out through hollow and curved plunger H into curved cylinder I. The valve *a*, covering the opening *c* in this curved plunger, opens outward automatically, admitting of the free passage of the fluid, but closes when the plunger is moved in an opposite direction, when the fluid that has passed through it is forced through curved cylinder I into reservoir K.

L is a shaft which may be arranged to turn in suitable bearings. To it is secured a band-wheel, M, over which a band may pass from an engine or other motive power imparting motion to it. On the end of this shaft is a crank, N, to which is attached one end of a connecting-rod, O. The other end is pivoted to rocker-arm P, that is pivoted to suitable frame-work, R. The end of the rocker-arm forms a \perp , to the upper end of which is pivoted a connecting-rod, S, that is attached to piston-rod working in horizontal cylinder. This rod is attached to yoke *f*, that is secured to plunger E, and by this piston and rocker-arm the plunger receives its reciprocating motion. To the lower end of this rocking arm is pivoted a connecting-rod, V, that is connected to the curved plunger H at W, by which it receives its reciprocating motion.

Y is a weight attached to rocker-arm for the purpose of counterbalancing the pressure it is desired to maintain in reservoir K, which may be regulated by means of said weight being adjustable backward or forward in notches *i* of the arm P.

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

1. The combination, in a balanced pump, of a horizontal cylinder, A, provided with a yoked plunger, E, with a curved plunger and cylinder attached, and connected thereto by a flexible joint, G, all substantially as set forth.

2. In a balanced pump, the combination, with the T-shaped rocker-arm P, having notches *i*, pivoted to the frame R, its inner ends connected to rods S V of the plungers, its outer end suitably connected to a band-wheel, M, of the weight Y, adjustable on said rocker-arm by means of the notches, as shown and described.

HALEY S. RAMSEY.

Witnesses:

J. W. CUNNINGHAM,
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