A. Stiven,

Rotary Pump,

No. 6,927. Patented Dec. 4, 1849.

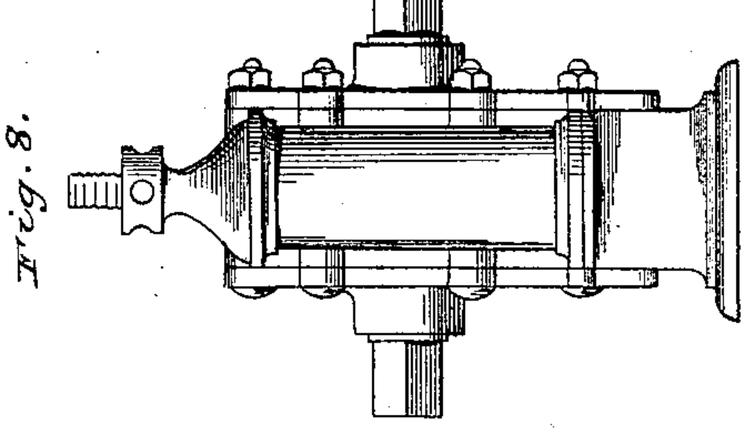


Fig. 8.

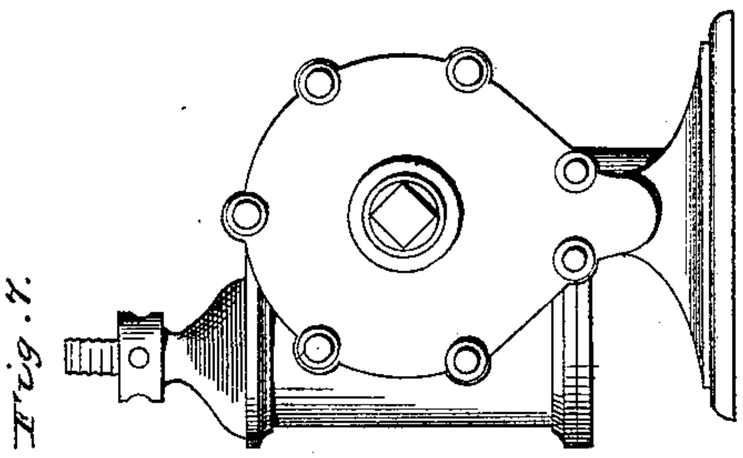


Fig. 7.

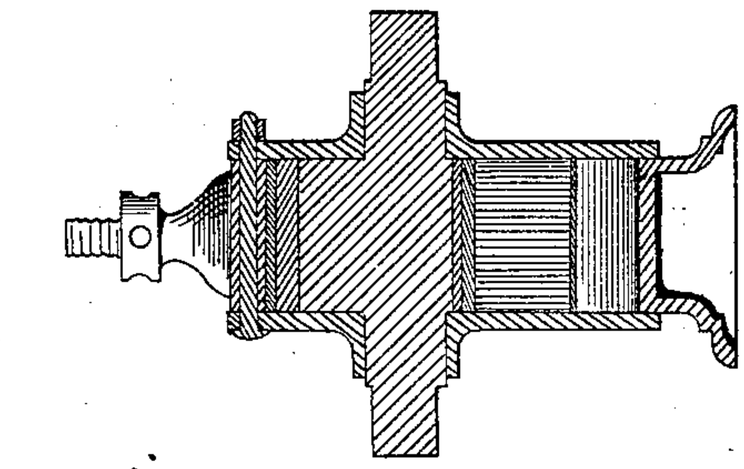
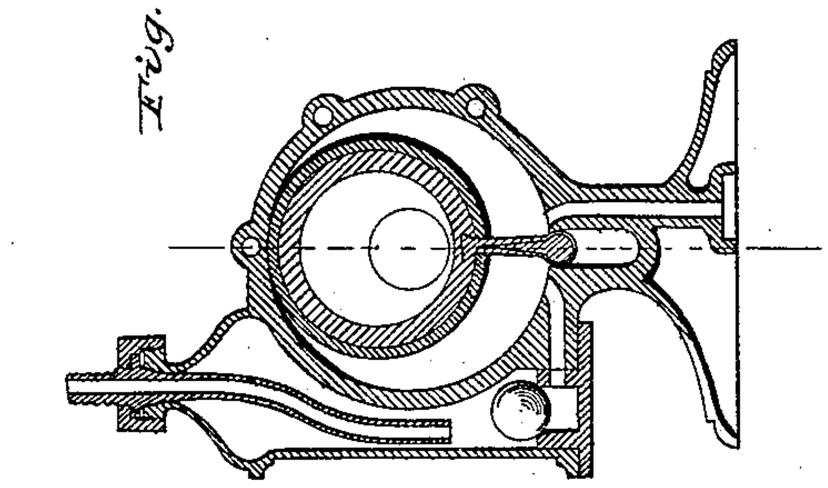


Fig. 6.



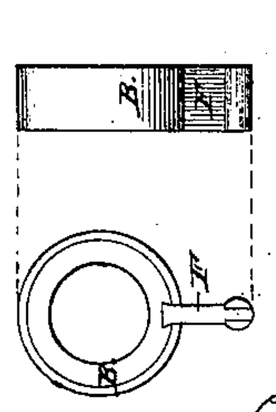


Fig. 5.

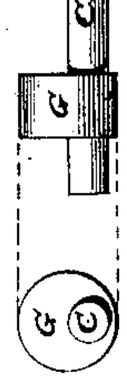


Fig. 4.

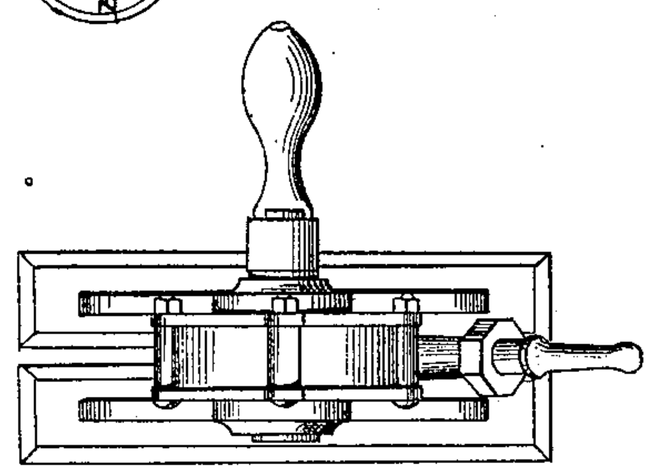


Fig 3

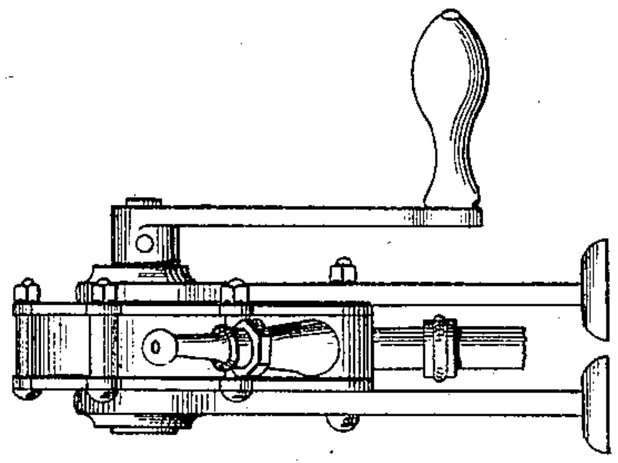


Fig. 2.

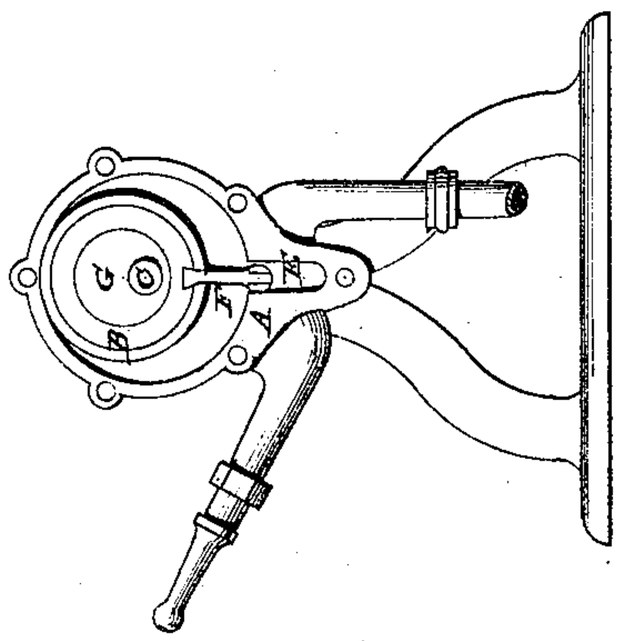


Fig. 1.

UNITED STATES PATENT OFFICE.

ALEXANDER STIVEN, OF NEW YORK, N. Y.

IMPROVEMENT IN PUMPS FOR RAISING WATER.

Specification forming part of Letters Patent No. **6,927**, dated December 4, 1849.

To all whom it may concern:

Be it known that I, ALEXANDER STIVEN, of the city, county, and State of New York, have invented a new and Improved Mode of Lifting and Forcing Liquids, Air, Gas, and Steam; and I do hereby declare that the following is a full and exact description thereof in connection with the drawings annexed.

Figures 1, 2, and 3 represent, respectively, a side and front elevation and a plan of the machine for lifting and forcing so far as required to represent and explain my invention, and I refer to the drawings as part of my specification.

A, Fig. 1, is the external casing or disk which forms the barrel or cylinder of the pump, having an oblong parallel slot E cutting the inside diameter of cylinder A.

B, Fig. 1, is an annular ring or piston with a radial arm F extending beyond its extreme diameter in a line with the center of the ring.

C, Fig. 1, is a shaft with an eccentric or cam G fixed upon it.

Fig. 4 is a view of the eccentric and shaft detached from the pump. Fig. 5 is a view of the annular and radial arm detached from the pump. Figs. 1, 2, and 3 are correct representations of the model accompanying the drawings and specification. Fig. 6 is a section of force-pump with air-vessel. Fig. 7 is an exterior side elevation of force-pump. Fig. 8 is a front elevation of the same.

The shaft C is fitted in journals on the side plates of external casing. The eccentric or cam G is fitted into the inside diameter of annular ring or piston B. The end of the radial arm F is fitted into slot E of cylinder A, which forms an abutment or sliding partition between the exit and entrance, thereby preventing any liquid or air to pass by in the act of forcing and lifting. The exit and entrance must be as close to one another as the slot E will admit. The section of Fig. 6 shows the position of exit and entrance. The length of annular ring and radial arm is the length of cylinder A and fitted so as to be air and water tight. The outside diameter of annular ring or piston bears against the inside diameter of cylinder A, so as to be air and water tight. The annular ring must be less than the inside diameter of cylinder A. The difference between the interior diameter of cylinder A and the external diameter of piston B is the quantity of water to be lifted at each revolution. The space contained between the two diameters gives the quantity of water lifted at each revolution.

By giving motion to the eccentric shaft (by any known mode of driving, such as steam, water, or hand power) the annular ring or piston will be caused to roll along the inside diameter of cylinder A. The radial arm acting as a movable fulcrum will rise and fall in the slot E of cylinder A, so as to accommodate every position the annular ring or piston is placed into, and thereby a continued vacuum will be formed, so as to lift water from required depths. Likewise for force-pumps a continued force will be kept up, so as to force water to required heights.

By placing two or more eccentrics on the same shaft any number of pumps can be worked at the same time.

The pumps can be made of all known metals, composition of metals, india-rubber, gutta-percha, and other flexible material, likewise of wood.

What I claim is—

The annular ring, with radial arm and slot in cylinder immediately between the exit and entrance and giving motion to the annular ring or piston by an eccentric or cam, and the whole operating conjointly together, as particularly set forth and illustrated in my specification and drawings herewith.

ALEXANDER STIVEN.

Witnesses:

ALEX. WATSON,

JOHN WHITAKER.