

(No Model.)

W. S. BLUNT.

PUMP.

No. 303,613.

Patented Aug. 19, 1884.

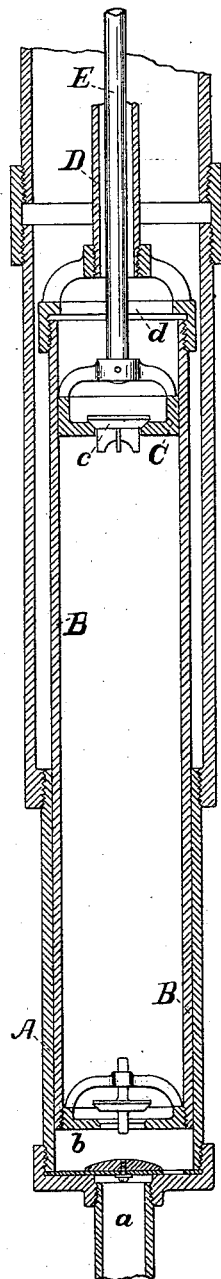


Fig. 1.

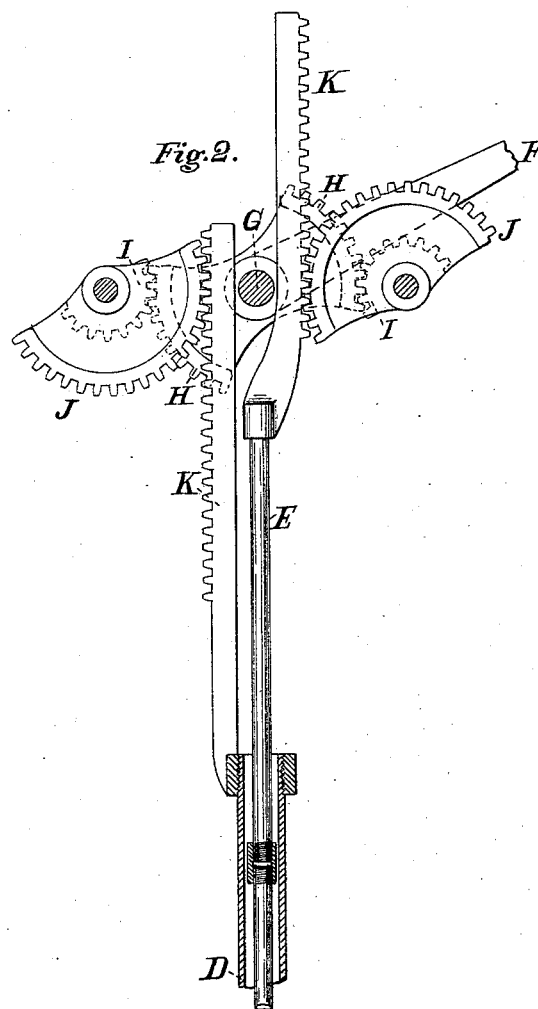


Fig. 2.

WITNESSES:

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WILLIAM S. BLUNT, OF NEW YORK, N. Y.

PUMP.

SPECIFICATION forming part of Letters Patent No. 303,613, dated August 19, 1884.

Application filed March 18, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. BLUNT, of the city, county, and State of New York, have invented Improvements in the Construction of Pumps; and I do hereby declare that the following is a full, clear, and correct description of my invention, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a vertical sectional view of my improved pump; Fig. 2, a sectional view of the means employed to operate the same.

In the drawings, like parts of the invention are designated by the same letters of reference.

The nature of the present invention consists in the combining with an ordinary pump-cylinder a second pump-cylinder of about double the length of the first cylinder, and free to move within the same, and provided with a piston furnished with a valve and a second piston.

To enable those skilled in the art to make and use my invention, I will describe the same. A shows an outer cylinder provided with an inlet, *a*, for the water.

B is a second or inner cylinder of about double the length of the outer cylinder, A. This second or inner cylinder, B, is provided with a valve and packing, as at *b*, and serves as a piston for the external cylinder, A.

C is a piston provided with a valve, *c*, free to move within the inner cylinder, B. The piston C and the piston B have a reciprocating movement imparted to them, and approach and separate simultaneously, while the external cylinder, A, remains stationary.

D is a hollow rod operating the inner or second cylinder, B, and is secured to the inner or second cylinder by a ring, *d*, having openings for the water-way.

E is a rod passed through the hollow rod of the cylinder B, and employed to operate the inner piston, C.

The pump thus constructed is provided with a handle, F, which may be operated by hand or power. This lever or handle F is keyed

upon a shaft, G, which also has fixed upon it the geared sectors H, gearing into and engaging with the segmental racks I. Concentric with these segmental racks I, and forming part of the same casting or secured upon the same shafts, are the gear-sectors J, gearing respectively with the racks K K², the rack K fixed to the upper end of the hollow rod D, and the rack K² being fixed to the upper end of the rod E. It will easily be seen that during the downward movement of the handle or lever F, and also of one of the sectors H, the segmental rack I and gear-sector J will have a motion from right to left, and the rack K will move down, while the opposite sector H and segmental rack I and gear-sector J will impart to the rack K² an upward movement. When the handle or lever F is moved upward or its movement reversed, the movement of the racks K and K² will be reversed.

While I have shown the particular devices for operating the pump just recited, I am fully aware that the operation may be brought about by other mechanical devices without departing from the object of my invention, which, as already stated, is the production of a double-acting pump with a straight water-way, and easy of operating, and one in which the amount of friction is decreased and the yield of water is doubled. The water to be raised will enter the pump through the inlet *a*, and be discharged through a nozzle or nosing at the upper end of the same.

Having now set forth my invention, I claim as new—

The combination, with the cylinder A, provided with an inlet, *a*, of a second cylinder, B, provided with a valve and packing, *b*, a piston, C, provided with a valve, *c*, and the hollow rod D, and rod E, constructed and operating substantially as and for the purposes set forth.

WILLIAM S. BLUNT.

In presence of—

W. V. H. HICKS,
A. SIDNEY DOANE.