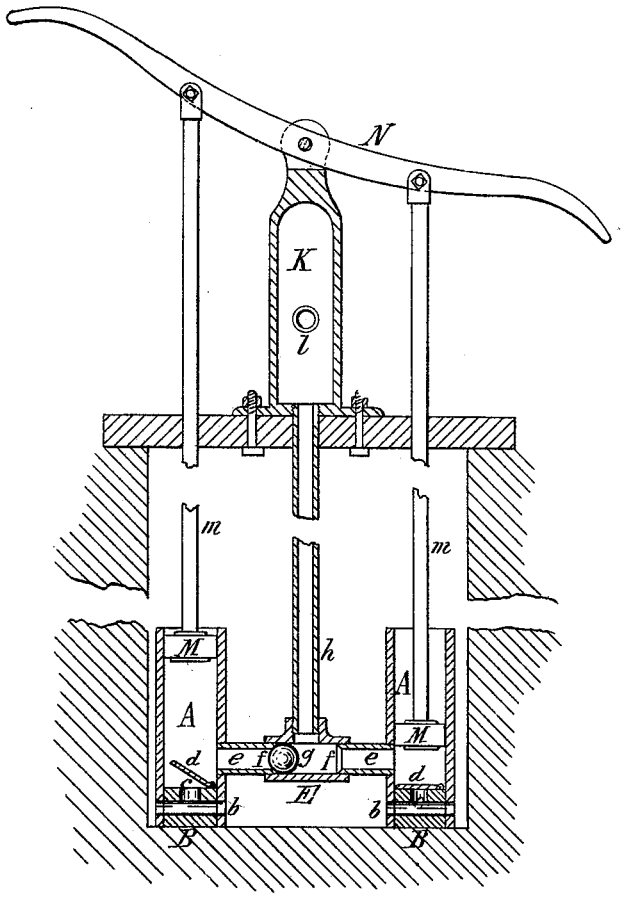
J. SCHRANKEL.

PUMP.

No. 188,964. Patented March 27, 1877.



Witnesses

Charles J. Buckbee

George H. Sykes

John Schrankel Inventor

by Edward Wilkelow

Attorney.

UNITED STATES PATENT OFFICE.

JOHN SCHRANKEL, OF LANCASTER, NEW YORK.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **188,964**, dated March 27, 1877; application filed February 22, 1877.

To all whom it may concern:

Be it known that I, JOHN SCHRANKEL, of Lancaster, in the county of Erie and State of New York, have invented certain new and useful Improvements in Pumps, which improvements are fully set forth in the following specification, reference being had to the accompanying drawing.

My invention relates to that class of double-acting force-pumps which are provided with two pump-cylinders open at the top, and a single discharge-pipe arranged between the two cylinders, so that at each downward stroke of the plungers the water will be forced from the respective pump-cylinders into the discharge-pipe.

My invention consists of the particular construction of the pump, so as to be cheaply manufactured, and efficient in use, as will be hereinafter fully set forth.

The accompanying drawing represents a sectional elevation of my improved pump.

A A represent the two pump-cylinders, each composed of a tube of wrought or cast iron, made open at both ends. B is a wooden block closing the lower end of each cylinder A, and provided with one or more horizontal bores, *b*, extending through the wall of the cylinder A, and a central vertical bore, *c*, intersecting the horizontal bore *b*, and provided at the top with a suitable valve, *d*, for admitting the water to the cylinder. *e* represents the horizontal discharge-pipe arranged in each cylinder A above the block B, and screwing from opposite sides into a centrally-arranged T-piece, E, so as to form two valve-seats, *f f*. *g* is a spherical valve arranged in the T-piece E before the pipes *e e* are connected therewith, so that when the parts are connected together the spherical valve *g* will roll from one seat, *f*, to the other, as the plungers are actuated. *h* is the central discharge-pipe rising from the T-piece E, the vertical nipple of which is smaller than the horizontal nipples, so that the valve *g* cannot be forced into or against the discharge-pipe *h* by the water-pressure. K is an air-vessel, arranged at the upper end of the discharge-pipe *h*, and provided with a suitable spout, *l*. M represents the plungers attached to rods *m*, and actuated by a lever, N.

The cylinders A A, pipes *e e* and *h* may all be constructed of gas-pipe, thereby enabling the pump to be produced at comparatively small expense.

The cylinders A A are arranged on the bottom of the well, as shown, and the air-vessel K above the ground at any suitable height. For very deep wells the discharge-pipe *h* may be provided at suitable distances apart with hollow cross-pieces, in which may be secured guides, through which the plunger-rods work.

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

The combination, with the two pump-cylinders A, provided with foot-blocks B, having bores *b* and *c*, of the horizontal discharge-pipes *e e* and connecting T-piece E, forming two valve-seats, *f f*, double-acting spherical valve *g*, vertical discharge-pipe *h*, and air-vessel K, all constructed and arranged as shown and described.

JOHN SCHRANKEL.

Witnesses:
CHAS. J. BUCHHEIT,
GEORGE H. SYKES.