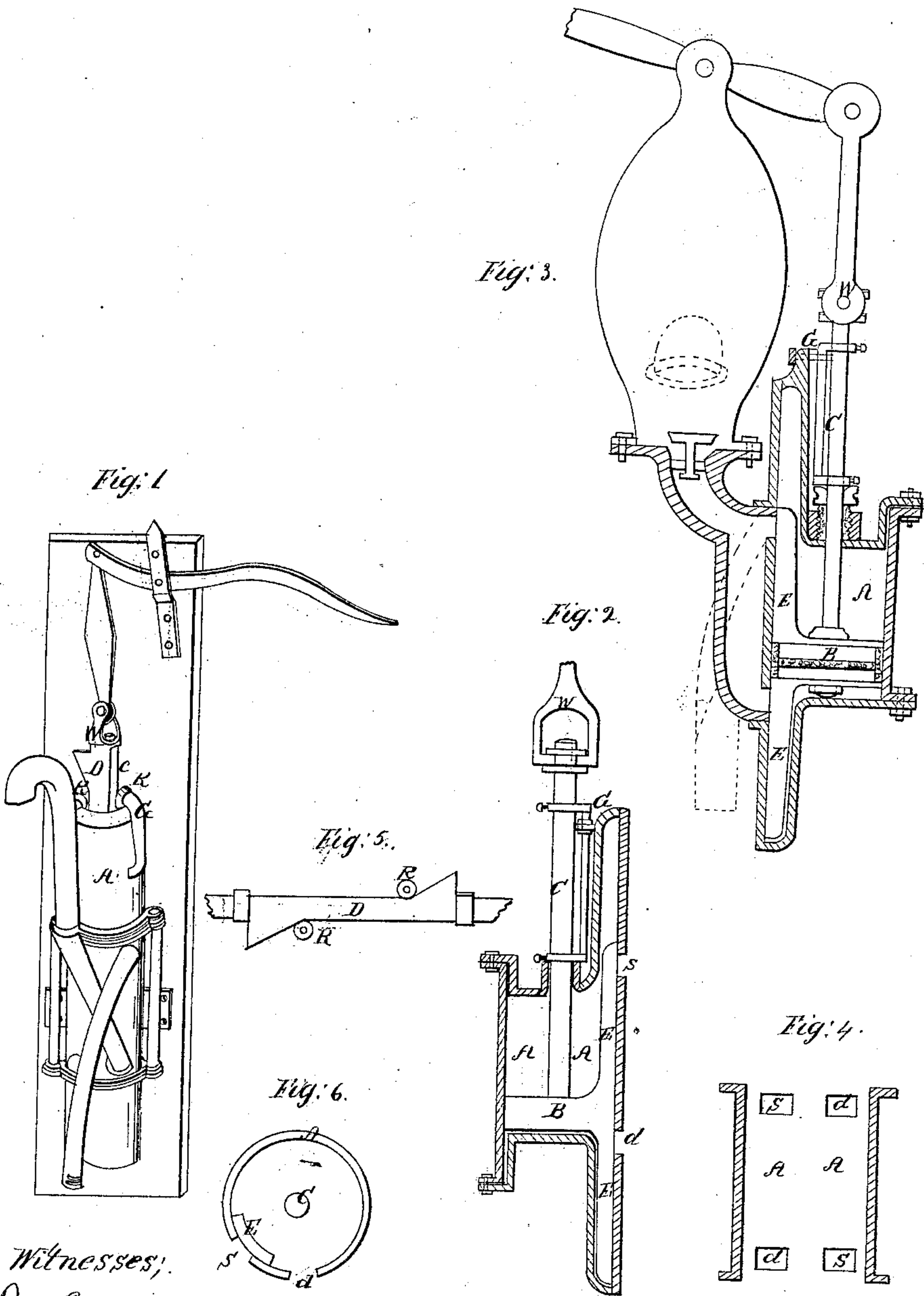


*A Bellingrath,
Force Pump.*

N^o 3,206.

Patented Jan. 22, 1861.



Witnesses;
J. C. Yeach
Henry Hage

Inventor;
Albert Bellingrath
by N. D. D. Jones Atty.

UNITED STATES PATENT OFFICE.

ALBERT BELLINGRATH, OF ATLANTA, GEORGIA, ASSIGNOR TO HIMSELF AND LEONARD BELLINGRATH, JR., OF SAME PLACE.

PUMP.

Specification of Letters Patent No. 31,206, dated January 22, 1861.

To all whom it may concern:

Be it known that I, ALBERT BELLINGRATH, of Atlanta, in the county of Fulton, in the State of Georgia, have invented certain new and useful Improvements in Hydraulic Pumps; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view; Fig. 2 a longitudinal section; Fig. 3 a longitudinal section showing the manner of packing when used as a suction pump, and with the air vessel attached; Fig. 4 a section of the cylinder showing the position of the suction and discharge holes; Fig. 5 a side view of the "wedge."

The nature of my invention consists in the arrangement and construction of the cylinder and piston with their attachments in such a manner as to dispense with the use of valves.

A, A, is the cylinder; B the piston which is provided with two wings E, E, one above and one below; C, the piston rod passing through an opening in the upper end of the cylinder. Above this opening and attached to the piston rod is a "wedge", D, D, D, which works through guides G, G, provided with friction rollers R, R. This wedge serves to rotate the piston part way around when it is worked up and down. A swivel W, is attached to the upper end of the piston rod to allow it to turn.

In the cylinder A, A, are four holes *d*, *d*, and *s*, *s*, as shown in Fig. 4.

d, *d*, are the discharge holes and *s*, *s*, the suction holes.

When the piston is at the bottom the wings E, E, cover one suction hole and one discharge hole. Now, if the piston be raised

up it will discharge the water through the upper discharge hole and draw it in through the lower suction hole; at the same time the piston raises in a vertical line till the wedge strikes the friction roller when it is turned so as to bring the wings from the holes they covered while going up to the other two and covering them. When the piston passes down it goes vertically, drawing the water through the upper suction hole and discharging it through the lower discharge hole, until the wedge arrives at the other friction roller, when the piston is turned back so that the wings cover the other holes.

The suction and discharge holes are connected by a pipe which can be lengthened so as to suit the depth of the well from which water is to be drawn. If desired to make it a suction pump the piston B, and stuffing box E, must be packed, as shown in Fig. 3. An air-vessel may be attached (as also shown in Fig. 3,) where the discharge pipes unite, having an outlet at the bottom and a lever to work the pump, on the top. Fig. 5 shows the form of the "wedge" which is attached to the piston rod. The advantages of this arrangement are that it does away with valves, which are liable to get out of order, and it is simple in its construction and durable in its operation. It can be used as an immerse pump or a suction pump and will give perfect satisfaction in either case; and can be worked perpendicularly or horizontally.

What I claim as my invention and desire to secure by Letters Patent is—

The construction and arrangement of the piston B, cylinder A, wedge D in the manner and for the purposes set forth.

ALBERT BELLINGRATH.

Witnesses:

CHS. HARMSSEN,
T. D. THOMAS.