

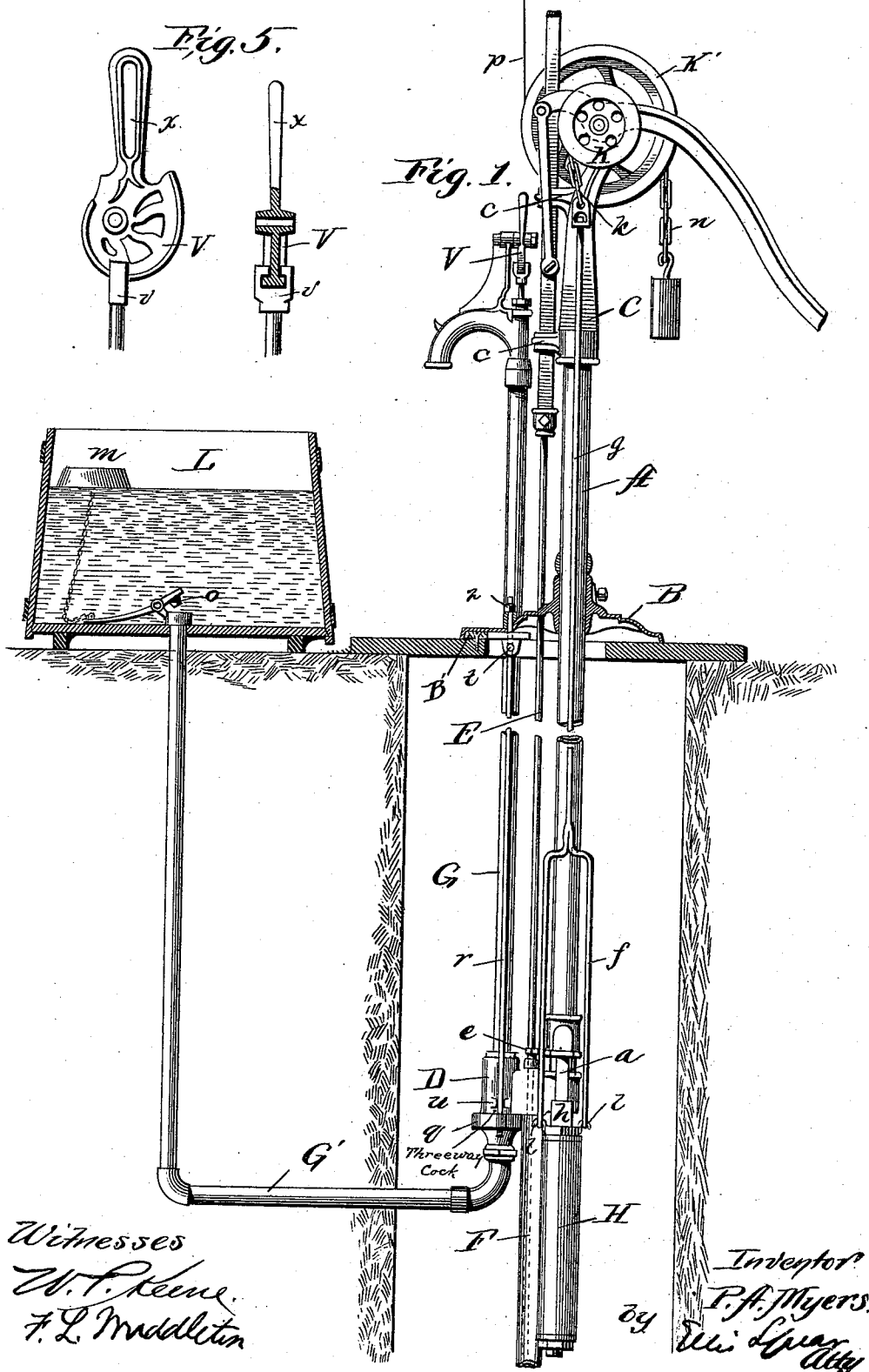
(No Model.)

2 Sheets—Sheet 1.

P. A. MYERS.
PUMP

No. 486,350.

Patented Nov. 15, 1892.



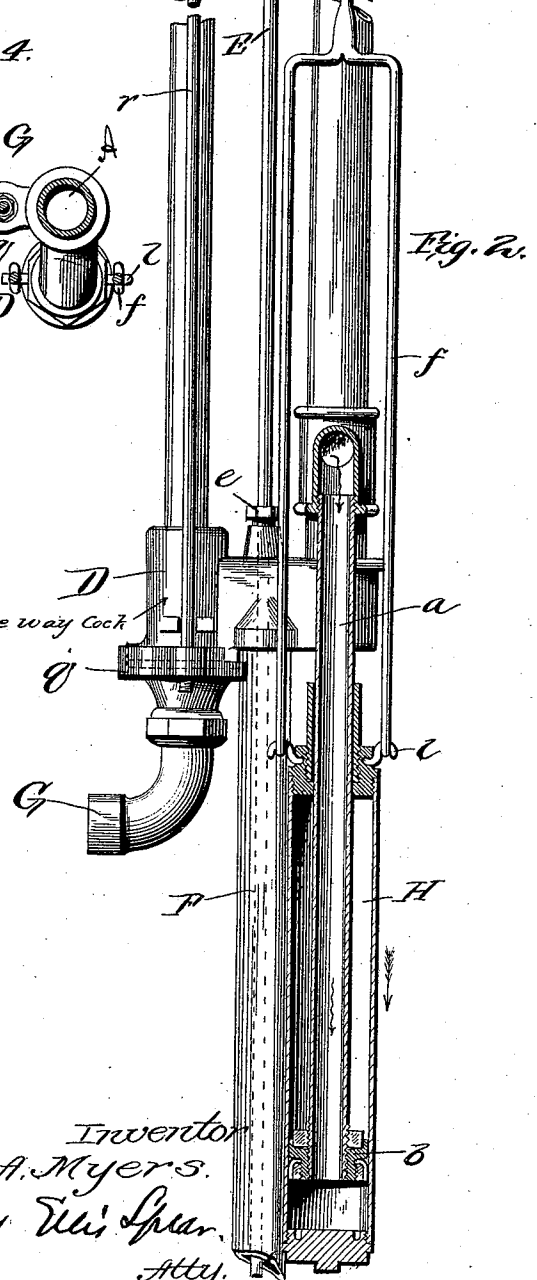
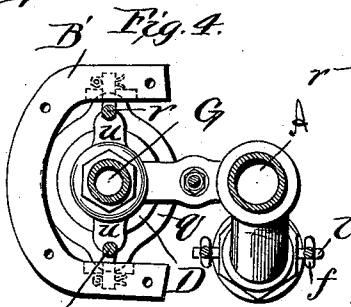
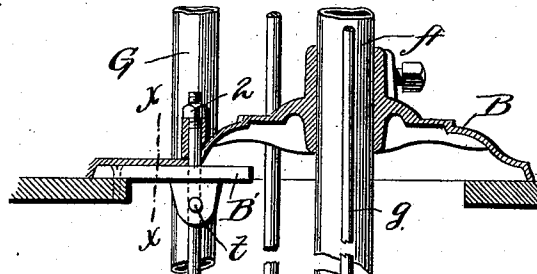
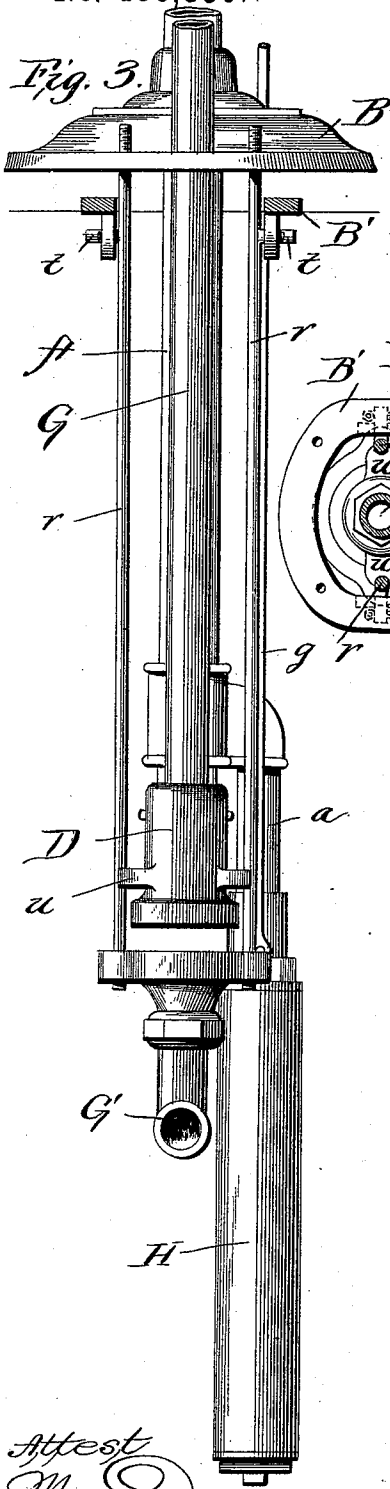
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2 Sheets—Sheet 2.

P. A. MYERS.
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Attest
Matters Donaldson
W. P. Keene.

Inventor
P. A. Myers.
by Ellis Spear.
Atty.

UNITED STATES PATENT OFFICE.

PHILIP A. MYERS, OF ASHLAND, OHIO.

PUMP.

SPECIFICATION forming part of Letters Patent No. 486,350, dated November 15, 1892.

Application filed December 3, 1889. Serial No. 332,452. (No model.)

To all whom it may concern:

Be it known that I, PHILIP A. MYERS, of Ashland, in the county of Ashland and State of Ohio, have invented a new and useful Improvement in Pumps; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention, fully set forth hereinafter, is an improved regulator for windmill-pumps. The general object of the regulator is to throw the wheel of the engine out of the wind when the tanks are filled with water.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 shows it in side elevation in connection with a section of the tank. Fig. 2 is an enlarged detail view of the lower portion of Fig. 1, some of the parts being in section. Fig. 3 is a view looking to the left of Fig. 2, the parts being slightly raised from the stationary seat. Fig. 4 is a plan view on the line $x x$ of Fig. 2. Fig. 5 is a detail view.

The pump-stock A is supported by a set-screw in a base-plate B, resting upon the pump-platform in the ordinary manner. To the upper end of this stock is fixed a casting C, which supports the operating-lever and other mechanism hereinafter described, and is also provided with guides $c c$, in which the piston-rod extension works. The pump-stock A is tubular in form and its upper end is closed by the casting C. The lower end is threaded into a chambered casting D, through which it has communication with the discharge-pipe and with the tank. The piston-rod is shown at E. It passes through the central chamber of the casting D, being provided with a packing e on the upper side and continuing through the main forcing-pipe F to the suction and forcing cylinder below. The pipe F is screwed into the casting D centrally thereof and forms direct connection through the passages in the casting with the air-chamber in the pump-stock, the discharge-pipe G, or the tank-pipe G', according to the position of the valve in the left-hand chamber of the casting in Fig. 1. Connected with the stock extension A is a branch pipe a , which is provided with a piston or packing b on its lower end. Over this packing fits snugly a

cylinder H, which is screwed to the sliding head h , moving freely on the pipe a , but forming a reasonably-tight joint. The head h has ears l , to which is hooked a bail f . The bail has an upper extension in the form of a rod g , which in turn is connected with a chain k , attached to a wheel K. The pipe G' opens into a tank L and is provided with a valve o , adapted to remain open normally, but closed by a float m when the water is at the desired height in the tank. When the water is at the desired height in the tank, further operation of the pump, with the valve being set to turn the water into the tank through the tank-pipe G', will force the water into the pipe A and through the pipe a into the cylinder H, with the effect of forcing it downward, which will thus draw upon and turn the wheel K. The wheel K is on a shaft which has its bearings in the upper end of the casting C, on the opposite end of which shaft is a large wheel of the same kind, (marked K',) which has a short chain n attached to its periphery, provided with a weight which tends constantly to draw upon the yoke f and pull the cylinder up against the pressure of the water. Attached to the same wheel K' is a chain or wire p , which extends to the wind-wheel and is connected with it in the ordinary way, so as to pull the wheel out of the wind by the movement of the cylinder H.

It will be understood that as soon as the valve in the tank is opened, admitting a discharge of water from the pipe G', the pressure will be taken off from the cylinder H, and the weight will then turn back the wheel K' to draw up the cylinder H and slacken the wire chain, allowing the wheel to again turn into the wind. It will also be observed that the pump-stock A is arranged to act as an air-chamber both in the ordinary operation of the pump and also in connection with the cylinder H. In the ordinary operation of the pump the water is forced up the pipe F and, according to the position of the valve, into the pipe G or G'. It is also forced into the pipe A against the column of air which is in the upper part of said pipe, which is thus made to react against the column of water in the slight intervals between the strokes. The re-

action of air is also constant through the pipe α into the cylinder H, and this tends to relieve the cylinder H of any shock when the valve is closed, and the action of the wind-engine is wholly against the cylinder.

The arrangement of the cylinder above described gives direct pull by the pressure of the water and simplifies the construction as compared with the arrangement heretofore used, in which a fixed cylinder is made to operate upon a piston connected with the rod or chain, which operates the wheel to throw it out of the wind.

It will be observed that the pipe α is so adapted to the length and movement of the cylinder H that when the said cylinder is drawn up to its upper limit its bottom bears against the lower end of the pipe, and the packing of the end of the pipe is arranged to bear against the bottom of the cylinder when it is thus drawn up. This closes the end of the pipe and prevents leakage while the pump is working. The bottom of the cylinder may be formed with a plain iron seat, and the end

of the pipe may have a seat faced with hard rubber.

I claim as my invention—

In combination, a pump-stock A, closed at its upper end and open at its lower end, forming an air-chamber, a chambered casting D, connected to said stock and communicating with its open lower end, discharge-pipes also connected to said casting, one leading to the spout and the other to a tank, a valve in said casting controlling the direction of the water, a branch pipe α , extending from the stock A and having a lower open end, and a cylinder sliding on said pipe, with operating connections between said cylinder and the windmill, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PHILIP A. MYERS.

Witnesses:

CLOYD MANSFIELD,
JOS. PATTERSON.