

(No Model.)

G. M. CONWAY.

PUMP.

No. 273,962.

Patented Mar. 13, 1883.

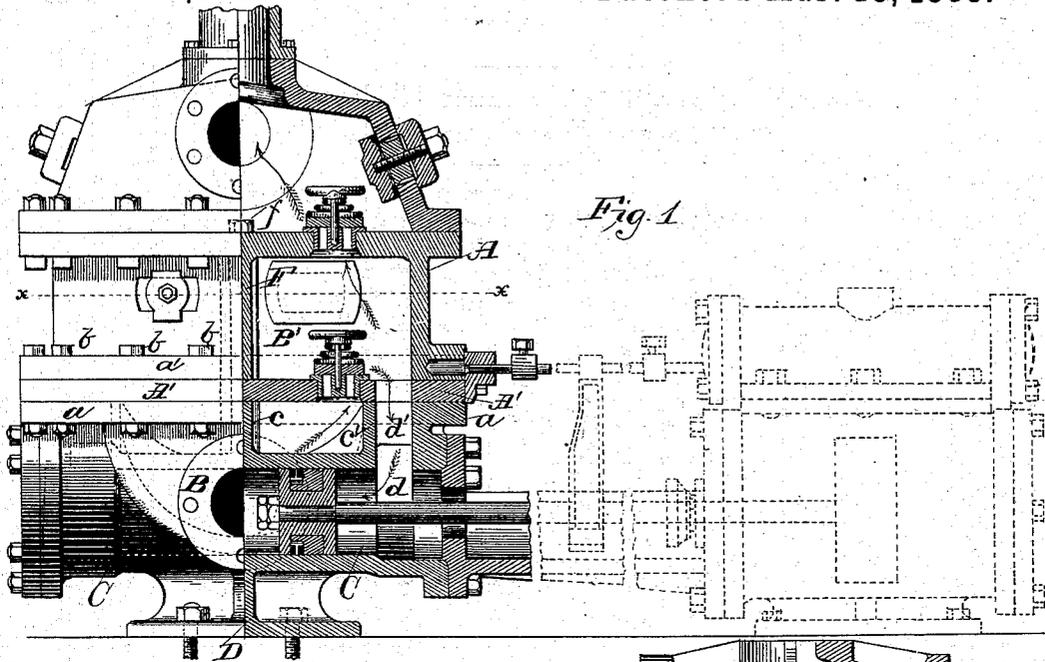


Fig. 1.

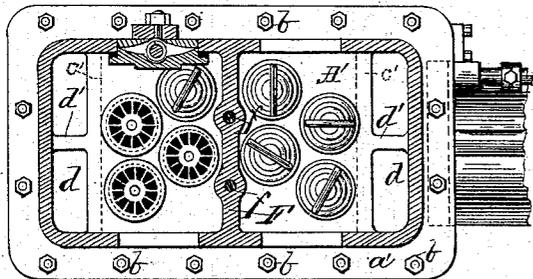


Fig. 2.

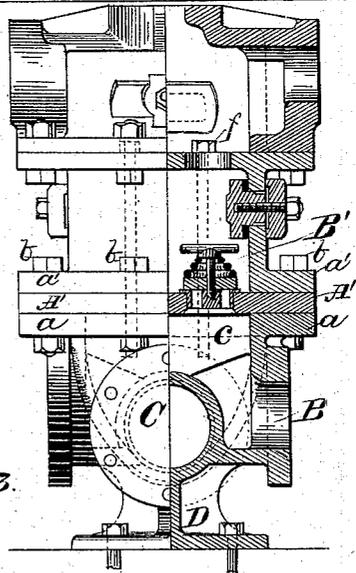


Fig. 3.

Witnesses:

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# UNITED STATES PATENT OFFICE.

GEORGE M. CONWAY, OF MILWAUKEE, WISCONSIN.

## PUMP.

SPECIFICATION forming part of Letters Patent No. 273,962, dated March 13, 1883.

Application filed April 21, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE M. CONWAY, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Pumps; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to steam-pumps; and it consists mainly in providing the water-chamber with a suction-valve plate that is made separate from the rest of the pump, as will be fully described hereinafter.

In the drawings, Figure 1 is a side view of my improved pump, partly in elevation and partly in section. Fig. 2 is a section on line *x x*, Fig. 1; and Fig. 3 is a rear-end view, partly in section and partly in elevation.

A is the shell of my pump.

B is the suction-port, and B' the middle chamber.

C is the cylinder, with which is cast the bed-piece D. In its longitudinal center I provide the cylinder C with a bridge, *c*, that extends up and out to each side of the pump, and is reduced in depth from its center to its ends to allow full communication of the water from one end to the other of the pump. This space around the cylinder C constitutes the suction-chamber. I also extend partitions *c'* up from the cylinder—one at each end—to a level with bridge *c*. These latter serve to separate the suction from the cylinder-port *d*, and a bridge, *d'*, serves as a brace at each end between the shell of the pump and partitions *c'*.

*a a* are flanges on the cylinder part of the pump, which, with the bridges *c* and *d'* and partitions *c'*, support the suction-valve plate A'. The shell of the middle chamber has flanges *a'*, that correspond to those on the cylinder portion, and these rest upon the plate A' after it has been placed upon the flanges *a*, and then bolts *b b* serve to clamp the plate A' between the suction and middle chambers.

I further secure the middle chamber to the cylinder portion by screw-bolts *f f*, that pass through re-enforces in the partition F and down into the bridge *c*, which is screw-threaded to receive them. Now, while the suction and middle chambers clamp the suction-valve plate securely between them, and the structure is as strong and tight as if cast all in one piece, if any of the suction-valves should get out of order or the cylinder should become porous

or spring a leak, the suction-valve plate may be easily taken out to give access to its under side and to the inlet-port and cylinder. I claim that my pump is an improvement on those that have preceded it, in that its parts are easily cast, the structure is durable, and it can be so taken apart as to render the entire interior accessible.

The middle chamber, B', of my pump is divided by a partition, F, into two compartments, each compartment connecting with one end of the cylinder C through a port, *d*, while the inlet-port B connects with the middle chamber through valves that open up into it from plate A'. Now, when the piston makes a stroke to the right it leaves a vacuum in the front end of the cylinder, which is filled from the front compartment of the middle chamber by the water from the port B, and at the same time the water in front of the piston-head is forced up into the rear compartment of the middle chamber and out through the valves in its top plate to the discharge-chamber, and then the return-stroke of the piston expels the water from the front end of the cylinder into the front compartment of the middle chamber, and also out through the valves in the top plate, and thus each stroke of the piston expels the water from one compartment of the middle chamber while it creates a vacuum in the other that is filled by the water from the inlet-ports.

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

1. In a pump, the suction and middle chambers, in combination with a removable horizontal suction-valve plate that separates them, as set forth.

2. The cylinder C, partitions *c'*, and bridges *c* and *d'*, in combination with suction-valve plate A' and chamber B', as set forth.

3. In a pump, the combination of the suction-chamber, having suction-port B, cylinder C, and cylinder-port *d*, and above the same removable horizontal suction-valve plate A', above this double middle chamber, B', provided with top valve-plate, and above this the discharge-chamber, all substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand on this 11th day of April, 1882, in the presence of two witnesses.

Witnesses: GEO. M. CONWAY.

STANLEY S. STOUT,  
HAROLD G. UNDERWOOD.