

(No Model.)

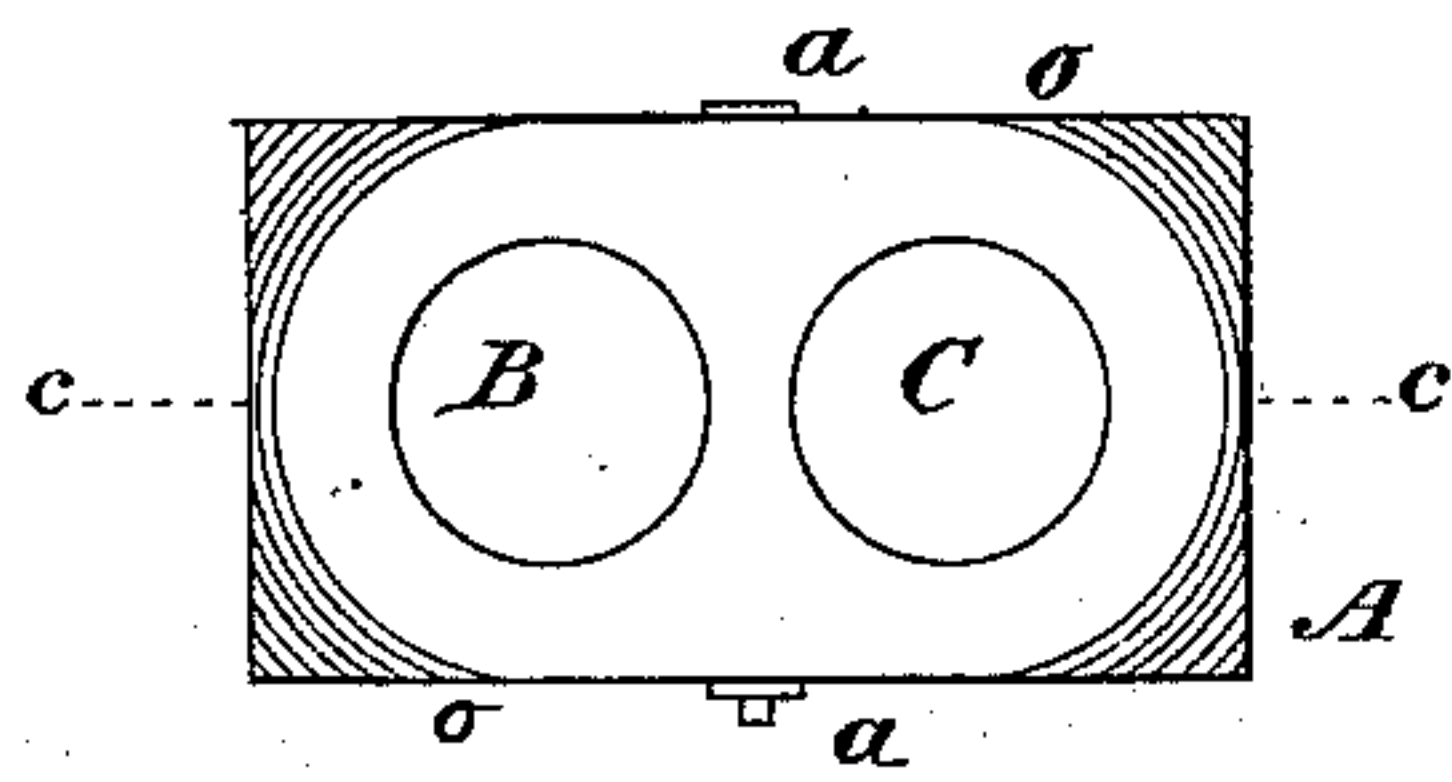
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FORCE PUMP.

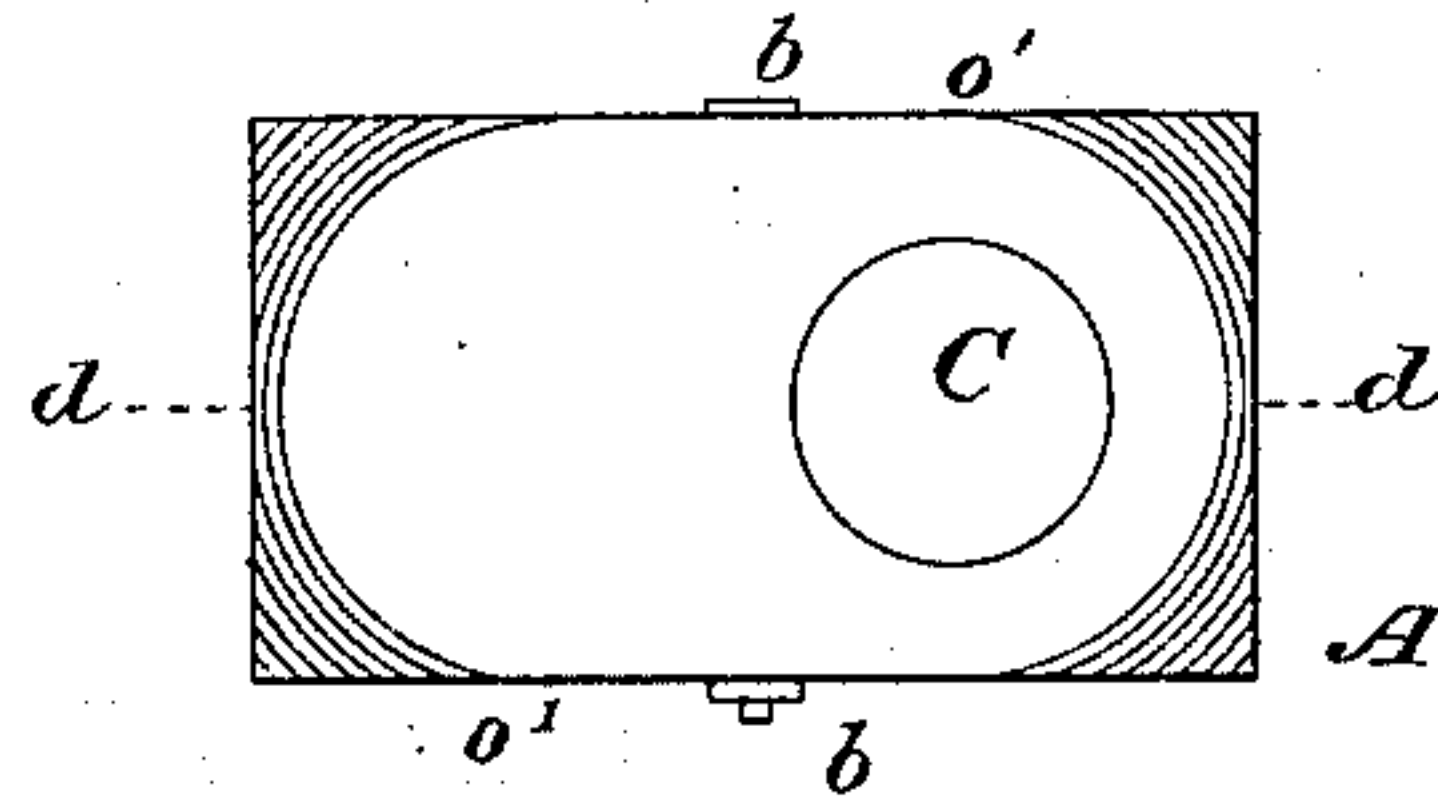
No. 280,106.

Patented June 26, 1883.

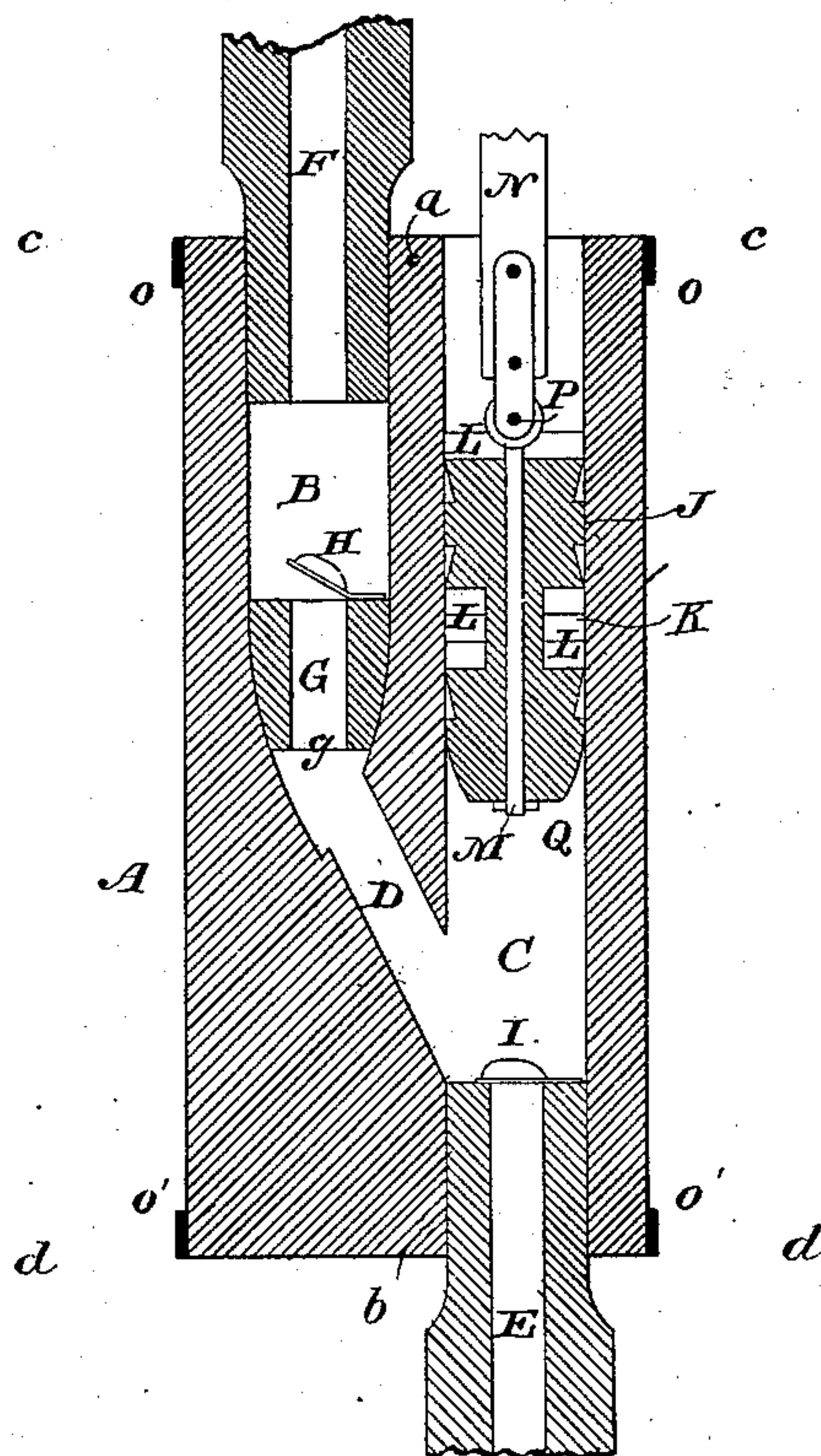
*Fig. 2.*



*Fig. 3.*



*Fig. 1.*



WITNESSES

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# UNITED STATES PATENT OFFICE.

MILO L. G. WHEELER, OF OREGON CITY, OREGON.

## FORCE-PUMP.

SPECIFICATION forming part of Letters Patent No. 280,106, dated June 26, 1883.

Application filed July 17, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, MILO LUTHER GATES WHEELER, a resident of Oregon City, in the county of Clackamas and State of Oregon, have invented certain new and useful Improvements in Force-Pumps, of which the following is a specification.

My invention relates to and is an improvement upon Letters Patent No. 253,141, granted to me January 31, 1882, for improvements in force-pumps.

The object of my invention is to simplify in such a force-pump the construction and arrangement of the suction and pressure cylinders and their valves and buckets; and my invention consists in constructing the pressure and suction cylinders in one piece, whether of wood or other material; in constructing the plunger and bucket of suction-cylinder in one piece, and doing away with the number of valves, using two valves instead of four, and still dividing the column of water in pumping.

In the accompanying drawings, forming part of this specification, Figure 1 is a view in vertical section of the suction and pressure cylinders with bucket and plunger, valves, and tubes in their location. Fig. 2 is an end view of the top of double cylinder, and Fig. 3 is a similar view of the bottom end of double cylinder.

A in Fig. 1 represents the double cylinder, made all in one piece. B represents the pressure-cylinder, and C is the suction-cylinder. D is the connecting opening or port between cylinders B and C. E is the suction-tube. F is the pressure-tube. G is the valve-seat in cylinder B, and H is the valve. *g* is the opening in valve-seat G to allow the water to pass upward to valve H into tubing F. I is the valve located on suction-tubing in lower part of cylinder C. J is the double piston, or bucket and plunger in one piece. K represents the water-packing around the piston J, between packings L L. M is the rod running through piston J, which connects the same to pitman N by joint P.

The cylinder A is held firmly together by iron bands *o o'*—one band around each end; and *a b* are bolts and nuts running through the bands *o o'* and cylinder A—one in each end, as shown in Figs. 1 and 2 of drawings.

*c* represents in Fig. 2 the top of cylinder A, and *d* in Fig. 3 represents the bottom of cylinder A. The ends of cylinder A are chamfered off, as shown in Figs. 2 and 3.

Cylinder C is bored out from end to end of cylinder A, while cylinder B is bored into cylinder A just half way of the entire length. The opening or port D is bored from the bottom of cylinder C at the proper angle to allow the operation of boring and connect with cylinder B.

The piston J, or bucket and plunger, is turned out of one piece, the neck connecting the bucket and plunger forming, in connection with the packings L, a water-packing. Q is the nut on rod M, and holds piston to its place.

The operation of my invention is as follows: The pump is primed by filling cylinder C with water before inserting piston J. The water enters through port D and valve H into tube F, and stands at the same height in tube E that it does in cylinder C. When the cylinder C is filled, the piston J is inserted and the air extracted from suction-tube E. Fig. 1 represents the piston J in the act of descent. As piston J descends, the valve I is closed, and the water is forced into cylinder B through port D and valve H, and when the piston ascends on the return-stroke the valve H closes and valve I opens, and the water is drawn up into cylinder C, and then as the piston J begins the downstroke, the valve I closes and valve H opens, and the same operation of forcing through port D into cylinder B follows. This pump is intended to be used with but one suction and pressure cylinder.

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

1. In a pump, the block A, having suction-cylinder C, bored entirely through the block, pressure-cylinder B, bored parallel with and but half the length of cylinder C, and port D, bored from the bottom of cylinder B into cylinder C, substantially as and for the purpose hereinbefore set forth.

2. In combination with the suction-cylinder C, the double piston J, consisting of the neck and two sections formed in one piece, the said piston-sections fitting the bore of the suction-cylinder, the construction being such that there

is an annular space formed by the sides of cylinder C and said piston, substantially as shown.

3. In combination with suction-cylinder C, the double piston J, consisting of the neck and  
5 two sections formed in one piece, the said piston-sections fitting the bore of the suction-cylinder, the construction being such that there is an annular space formed by the sides of cylinder C and said piston, with packings occu-

pying part of said space and extending flush with the surface of the piston, thereby forming a space for a water-packing, substantially as shown, and for the purpose set forth.

MILO LUTHER GATES WHEELER.

Witnesses:

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