

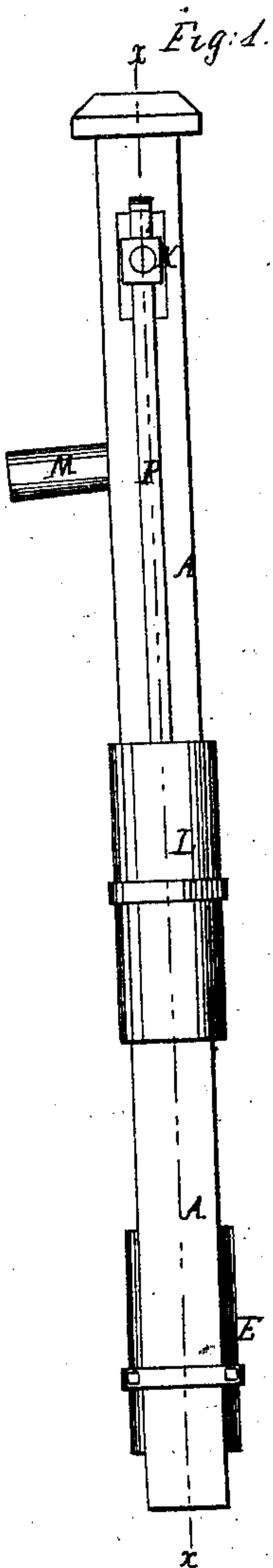
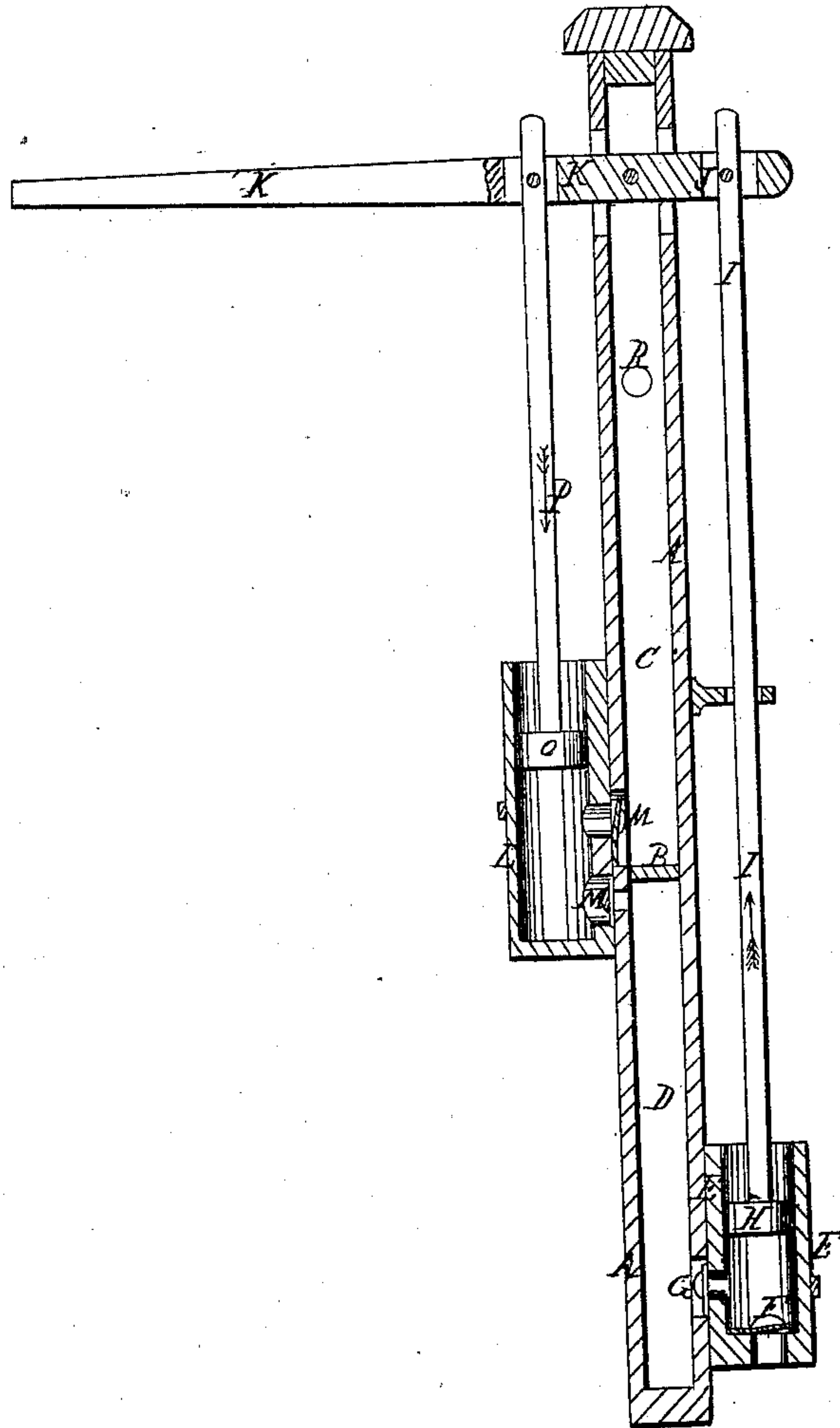
A. S. Hanson,

Double-Acting Pump.

N^o 57,897.

Patented Sep. 11, 1866.

Fig: 2.



Inventor,

A. S. Hanson
Per *Wm. L. Quon*

Witnesses:

J. M. Langdon
Wm. L. Quon

UNITED STATES PATENT OFFICE

A. S. HANSON, OF MILAN, MICHIGAN.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. 57,897, dated September 11, 1866.

To all whom it may concern:

Be it known that I, A. S. HANSON, of Milan, in the county of Monroe and State of Michigan, have invented a new and useful Improvement in Pumps; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The present invention relates to a novel construction and arrangement of the parts composing the pump, whereby many important advantages, such as the economy of labor and time, are secured, as will be obvious from the following detail description of the same, reference being had to the accompanying plate of drawings, in which—

Figure 1 is a side elevation of a pump made according thereto, and Fig. 2 a central vertical section of the same, taken in the plane of the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

A in the drawings represents the stock or main cylinder of the pump, closed at its lower end, and provided with a partition-plate, B, at or near its center, dividing it into two chambers, C and D, one above the other.

At or near the lower end of the lower chamber, D, to the outside of the pump-cylinder A, is secured a short cylinder, E, open at its upper end, and with a valve, F, opening upward, this cylinder communicating with the main cylinder or stock A through a valve, G, arranged in the side of the same and opening inward; H, a piston arranged in cylinder E, the rod I of which extends upward outside of the main cylinder A, and is hung at its upper end to the outer end, J, of a pump-handle, K, hung in the upper portion of the stock or main cylinder A.

L is another short cylinder, secured to the outside of the main pump-cylinder A, at or near its central partition-plate, B, which cylinder

is closed at its lower end, and through valves M and N communicates with the main cylinder, respectively above and below its said partition-plate, the valve above opening into the main cylinder, and that below into the smaller cylinder, L.

O is a piston arranged in cylinder L, the rod P of which extends upward, and is hung to the pump-handle K with the other piston-rod, I, hereinbefore referred to, but upon the opposite side of the main cylinder thereto.

From the above description of the construction and arrangement of the various parts composing the pump, it is plain to be seen that if the pump-handle be raised the piston of the lower cylinder attached to the main cylinder will be depressed, forcing the water or liquid in it through the valve G into the lower chamber, C, of the main cylinder A, and through such chamber into the upper cylinder, L, when then depressing the pump-handle the piston of such cylinder will move downward, forcing the water below it through the valve M into the upper chamber, B, of the main cylinder, and thence up through it, discharging at the spout or nozzle R of the same.

By this arrangement of the pump, water can be raised with less expenditure of labor than with pumps of the ordinary construction, and, besides, the pump in construction is simple and cheap—very important advantages.

I claim as new and desire to secure by Letters Patent—

The combination, with the main cylinder or stock A of the pump, divided into two chambers, C and D, of the cylinders E and L, respectively having valves F and G and M and N and pistons H and O, connected to a common handle, K, when all arranged together and operating substantially in the manner described, and for the purpose specified.

A. S. HANSON.

Witnesses:

SIMON H. GAY.

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