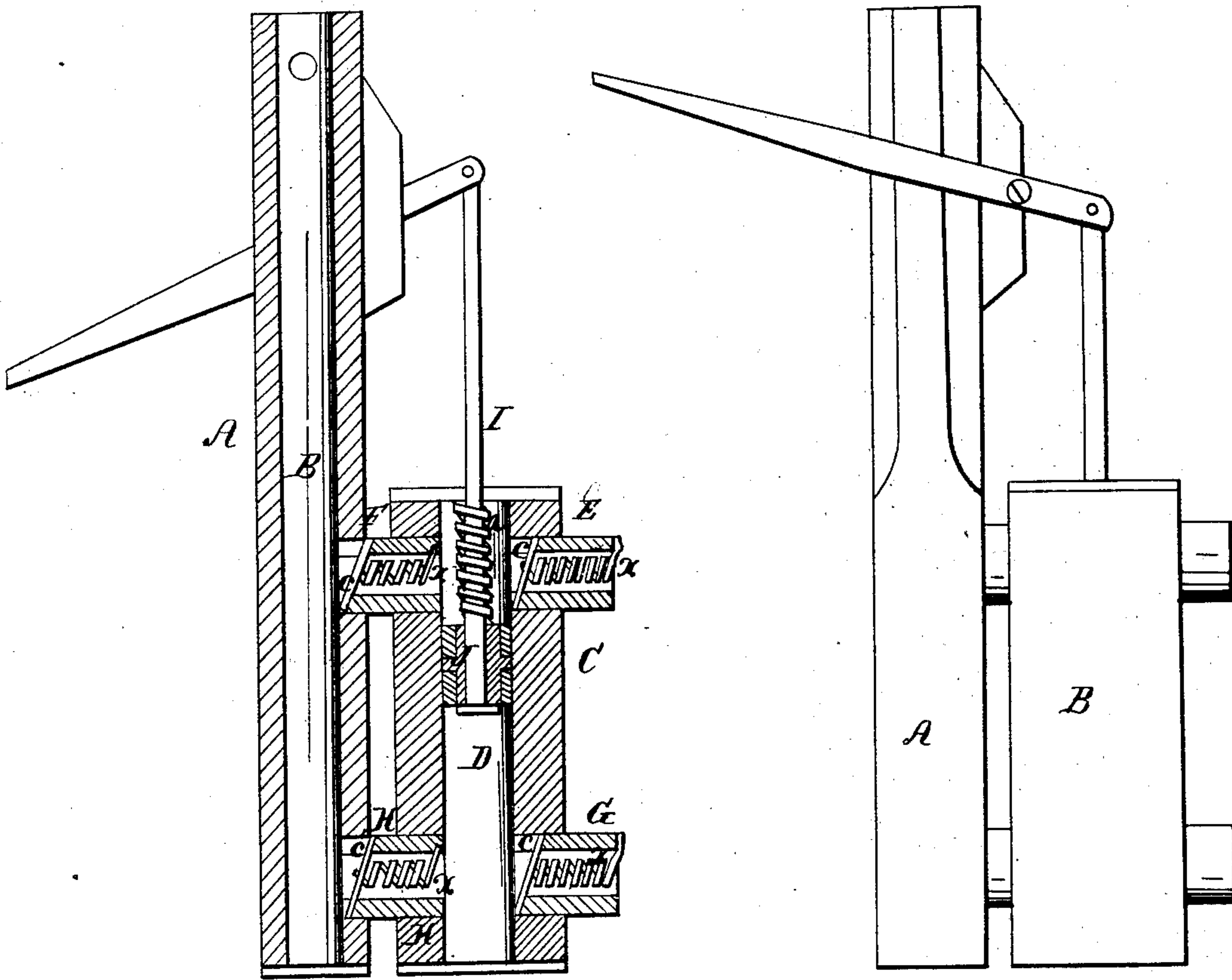


E. Hartzler,

Pump Lift.

N^o 24,868.

Patented July 26, 1859.



Witnesses;

*John Zimmerman
J. N. Fluckinger*

Inventor;

Eros Hartzler

UNITED STATES PATENT OFFICE.

ENOS HARTZLER, OF ORVILLE, OHIO.

PUMP.

Specification of Letters Patent No. 24,868, dated July 26, 1859.

To all whom it may concern:

Be it known that I, ENOS HARTZLER, of Orville, county of Wayne, and State of Ohio, have invented certain new and useful
5 Improvements in Pumps; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked
10 thereon.

The nature of my invention consists in arranging the several parts together, in the manner hereinafter particularly described.

In the drawings Figure 1, represents a
15 vertical longitudinal section Fig. 2, represents a side elevation.

In the figures A, represents the stock of the pump, which is provided with an ordinary chamber B.

20 C, represents a box which has in it a chamber, D, in which a piston head J, is operated by means of a piston rod I. The pump stock is connected to the box, C, by means of two pipes, F, and H. Water is admitted
25 into the box C, through the two pipes E, and G.

e, e, e, e, represent four valves, in the pipes E, F, G, H, which are hinged and held in proper position by means of the springs
30 *x, x, x, x*, said springs being made of coiled wire, and secured in the tubes.

a, represents a spring which surrounds the piston rod, I, and assists its action in one direction.

35 It will be seen that this is a double acting pump—that when the piston head descends,

the water is forced into the chamber in the pump stock through pipe H, and is drawn into the chamber D in the box through the pipe E, but when the piston head ascends
40 the water is drawn into chamber D through pipe G, and forced into chamber B, through pipe F—the water being thus forced into the stock by the downward as well as the upward motion of the piston rod.

45 The springs to the valves, assist them in their operation, giving them quickness and certainty of action. The spring *a*, assists in operating the piston rod against the pressure of water.

50 This pump is very simple in its construction is very durable, cheap, and is very effective in its operation as will be clearly seen.

I do not claim any of the individual parts
55 of this pump, as my invention appertains or consists more particularly in the peculiar arrangement of the parts as set forth.

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

The arrangement of pipes E, F, G, H, valves *e, e, e, e*, springs *x, x, x, x*, and spring
65 *a*, with the rod I, box C, and stock A, the several parts being combined and operating substantially as and for the purpose specified.

ENOS HARTZLER.

Witnesses:

JOHN ZIMMERMAN,
J. W. FLICKINGER.