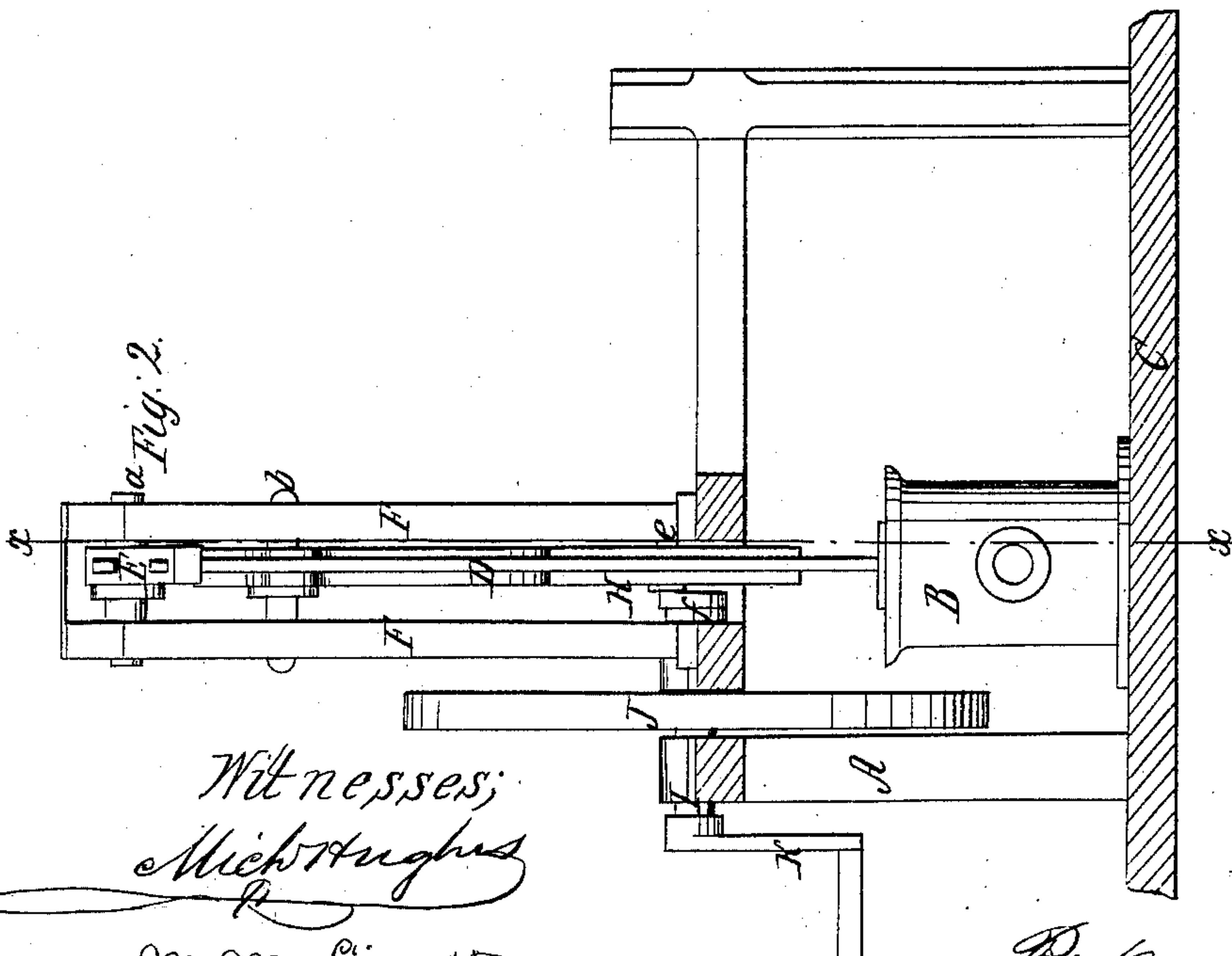
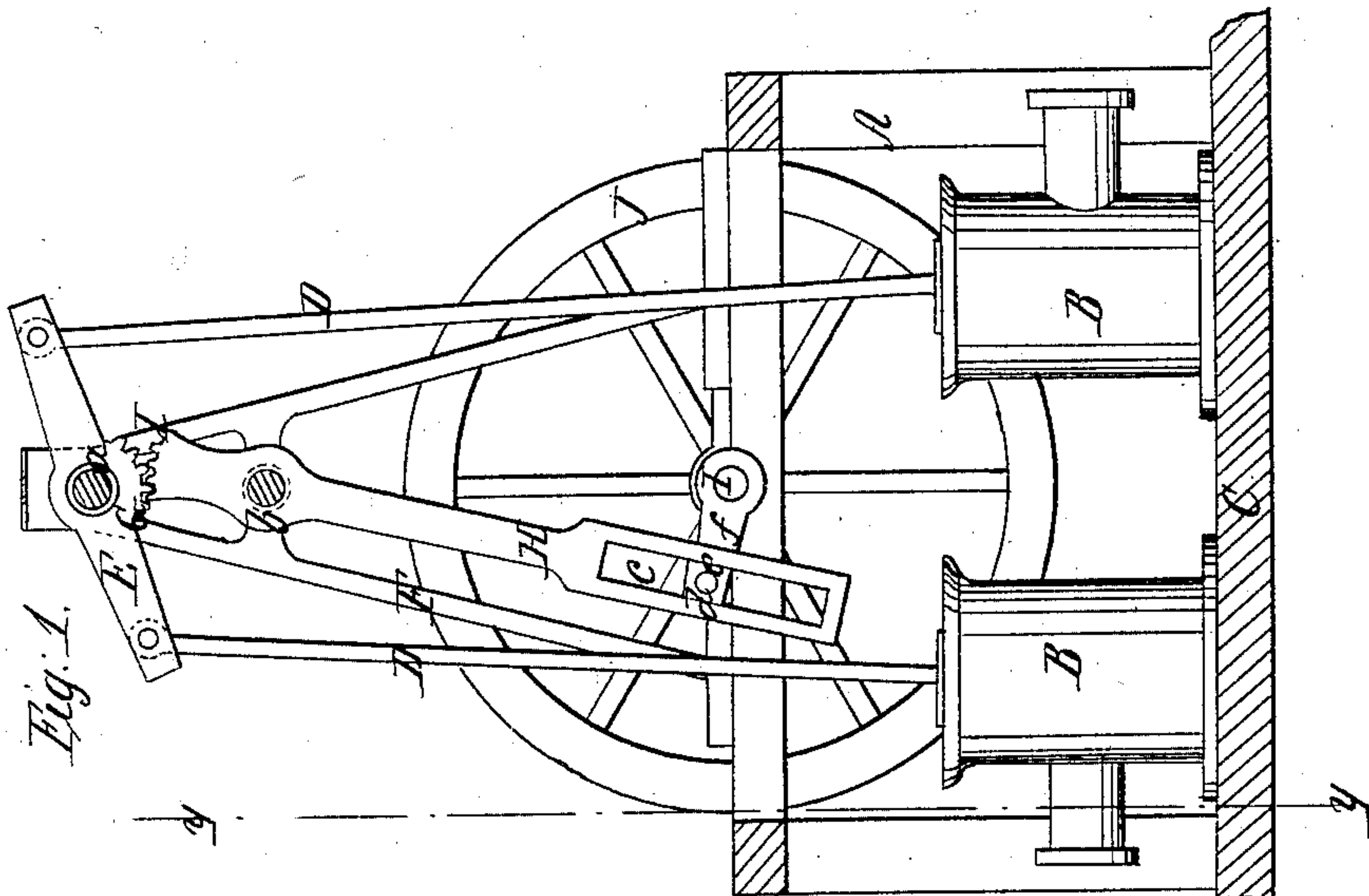


B. Robbins,

Ship Pump.

Nº 24,822.

Patented July 19, 1859.



Witnesses;
Michael Hughes
M. M. Livingston

Inventor;
Bryce Robbins

UNITED STATES PATENT OFFICE.

BENJAMIN ROBBINS, MACHIAS, MAINE.

APPARATUS FOR WORKING PUMPS.

Specification of Letters Patent No. 24,822, dated July 19, 1859.

To all whom it may concern:

Be it known that I, BENJAMIN ROBBINS, of Machias, in the county of Washington and State of Maine, have invented a new and Improved Mode of Applying Power to Ships' Pumps; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a front elevation of two pumps with my invention applied to them. Fig. 2, a side elevation of ditto.

Similar letters of reference indicate corresponding parts in the two figures.

This invention relates to an improved arrangement of means for operating two reciprocating pumps and consists in having the piston rods attached to the ends of a walking beam which is operated by segment gear from an oscillating arm put in motion by a crank on a driving shaft as hereinafter described.

The object of the invention is to apply power to the pumps in a direct manner and with the smallest possible loss of power by friction.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents a framing which is technically termed the "pin rail" and encompasses the main mast of a vessel, the framing being attached to the deck. B, B, are two pump cylinders which are firmly attached to the deck C. The piston rods D, D, of these pumps are attached to the ends of a walking beam, and between the uprights F, F, the axis *b*, of a lever H, is fitted, the upper end of which is provided with a toothed segment I, concentric with axis *b*. The two

segments G, I, gear into each other their axes *a*, *b*, being in the same vertical plane.

The lower part of the lever H, has an oblong slot *c*, made through it, as shown clearly in Fig. 1, and a slide *d*, is fitted therein, said slide being allowed to move freely up and down in the slot and having a crank pin *e*, attached to it, the crank *f*, of which is attached to the driving shaft I, on which a fly wheel J, is placed and a hand crank K, also secured to its outer end.

The operation is as follows: The shaft I, is turned manually and an oscillating motion is given the lever H, in consequence of the connection of the crank *f*, with it as previously described and the walking beam E, is vibrated in consequence of its connection with the lever H, by the toothed segments G, I. The two pump pistons therefore it will be seen are operated simultaneously in opposite directions. The fly wheel J, performs of course its usual office and the gravitating power of the lever H, owing to its oscillating or pendulous movement renders said lever an efficient means to transmit the power from the crank *f*, to the walking beam as said lever causes the parts to work uniformly and may be considered an auxiliary to the fly wheel.

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

The combination and arrangement of the crank *f*, fly wheel J, lever H, walking beam E, and piston rods D, D, as and for the purpose set forth.

BENJ. ROBBINS.

Witnesses:

MICH. HUGHES,
M. M. LIVINGSTON.