J. Armstrong,

Motor.

No. 32,038. Patented Apr. 16, 1861.

Fig. 2.

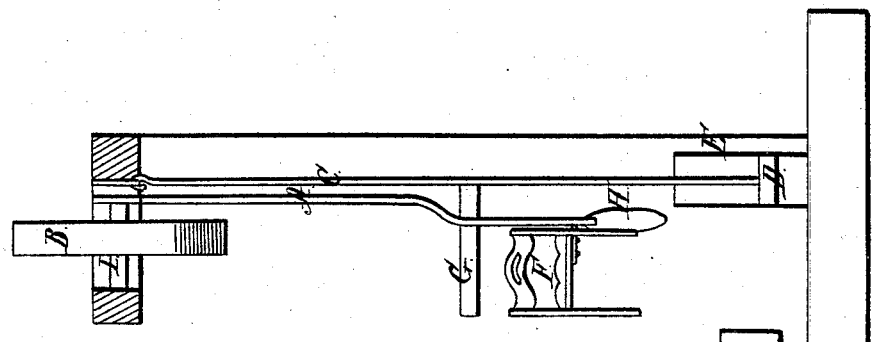
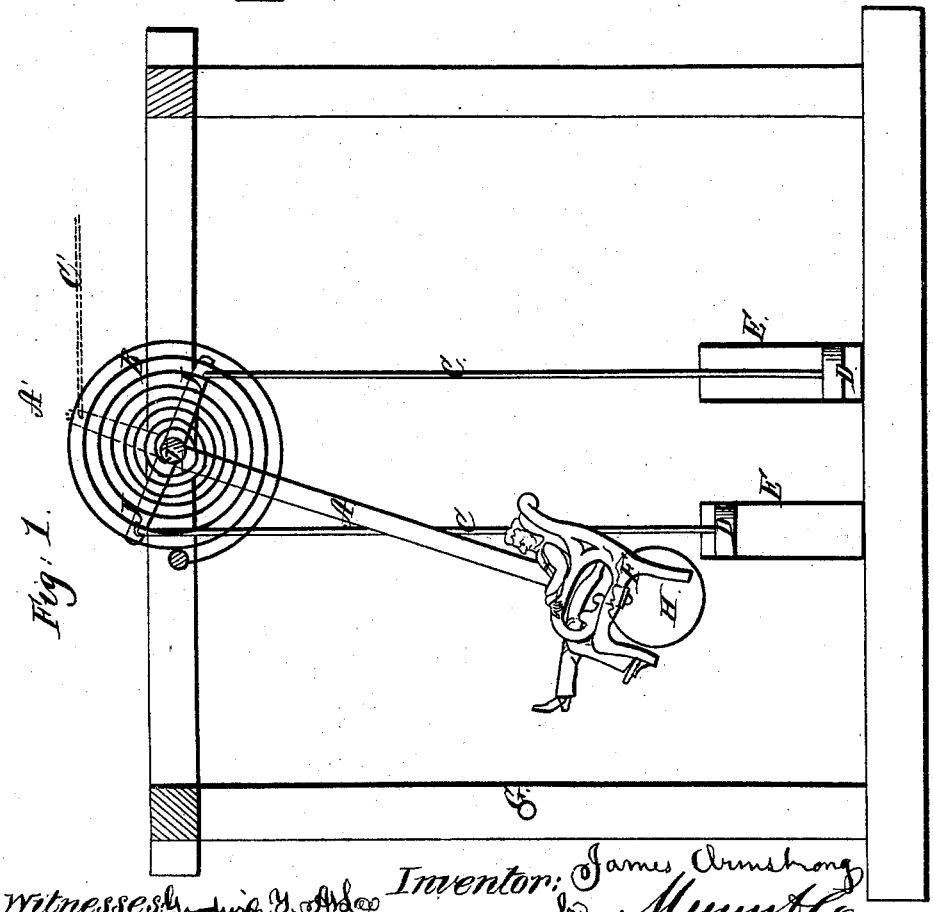


Fig. 1.



Witnesses: J. Dyson

Inventor: James Armstrong

by Munn & Co
Attorneys

UNITED STATES PATENT OFFICE.

JAMES ARMSTRONG, OF DOBBINSVILLE, NORTH CAROLINA.

OPERATING PUMPS.

Specification of Letters Patent No. 32,038, dated April 16, 1861.

To all whom it may concern:

Be it known that I, JAMES ARMSTRONG, of Dobbinsville, in the county of Sampson and State of North Carolina, have invented a new and useful Improvement in Operating 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, forming a part of this specification, in which—

Figure 1, represents a vertical longitudinal, and Fig. 2, a vertical cross section.

Similar letters of reference, in each of the several figures, indicate corresponding parts.

The nature of my invention consists in the combination of a pendulum and chair, spiral spring and stop rod with a lever or levers and two or more pumps, for the purpose to be described.

To enable others, skilled in the art, to make and use my invention I will proceed to describe its construction and operation.

The bar A, is fulcrumed at its upper end at I, and weighted at its lower end, as seen at H, so as to form a pendulum. A chair F, is fastened to its lower end upon which a person is to take his seat, as represented at Fig. 1. Two arms J, J, extend from the upper end of the pendulum bar, and the piston rods C, C, of two pumps E, E, are hung to the outer ends of said arms. Another arm or several arms A′, may be made to extend from the upper end of the pendulum bar and the piston rods C′, of a corresponding number of pumps be hung to it.

The pendulum being started, the operator, seated upon chair F, can keep it in constant motion by striking the fixed rod G, with his foot and thus increasing the tendency of the pendulum to fly back as often as it arrives at this end of its motion.

The action of the operator's foot will stop the forward motion of the pendulum, and cause it to commence its return motion, thereby reversing the pumps without a sudden shock. The distance of the rod G, from the center line of the pendulum motion is so arranged that by the time one of the pistons arrives at the bottom end of its cylinder, the operator's foot will just reach the rod. Thus the pendulum will be prevented from swinging too far so as to cause the pump piston to strike against the bottom of the cylinder. To stop the backward motion of the pendulum at the time the other piston arrives at the bottom of its cylinder and to prevent the pendulum from swinging so far back as to cause the piston to strike the bottom of the cylinder, the spiral spring B, is placed around the fulcrum of the pendulum, the inner end of the spring being attached to the fulcrum shaft of the pendulum, and its outer end to the frame of the machine. The spiral spring is so arranged that it winds up while the pendulum returns, just sufficient to absorb any surplus of momentum of the pendulum and thus stop the pendulum from going too far, as above mentioned. The stop rod G, and spring B, combined will thus serve to limit the motion of the pendulum both ways, without any sudden shock which would be produced if either of the pistons were allowed to strike the bottom of its cylinder.

The advantage of combining the chair F, with the pendulum is to place the operator in a comfortable position which will allow him to keep the machine going with very little exertion and thus enable him to continue the operation for a whole day if necessary without becoming much fatigued.

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

The combination of a pendulum A, and chair F, spiral spring B, and stop rod G, with a lever or levers J, J, A′, and two or more pumps, arranged and operating substantially as and for the purposes set forth.

JAMES ARMSTRONG.

Witnesses:

GOODWIN Y. ATLEE.

R. W. FENWICK.