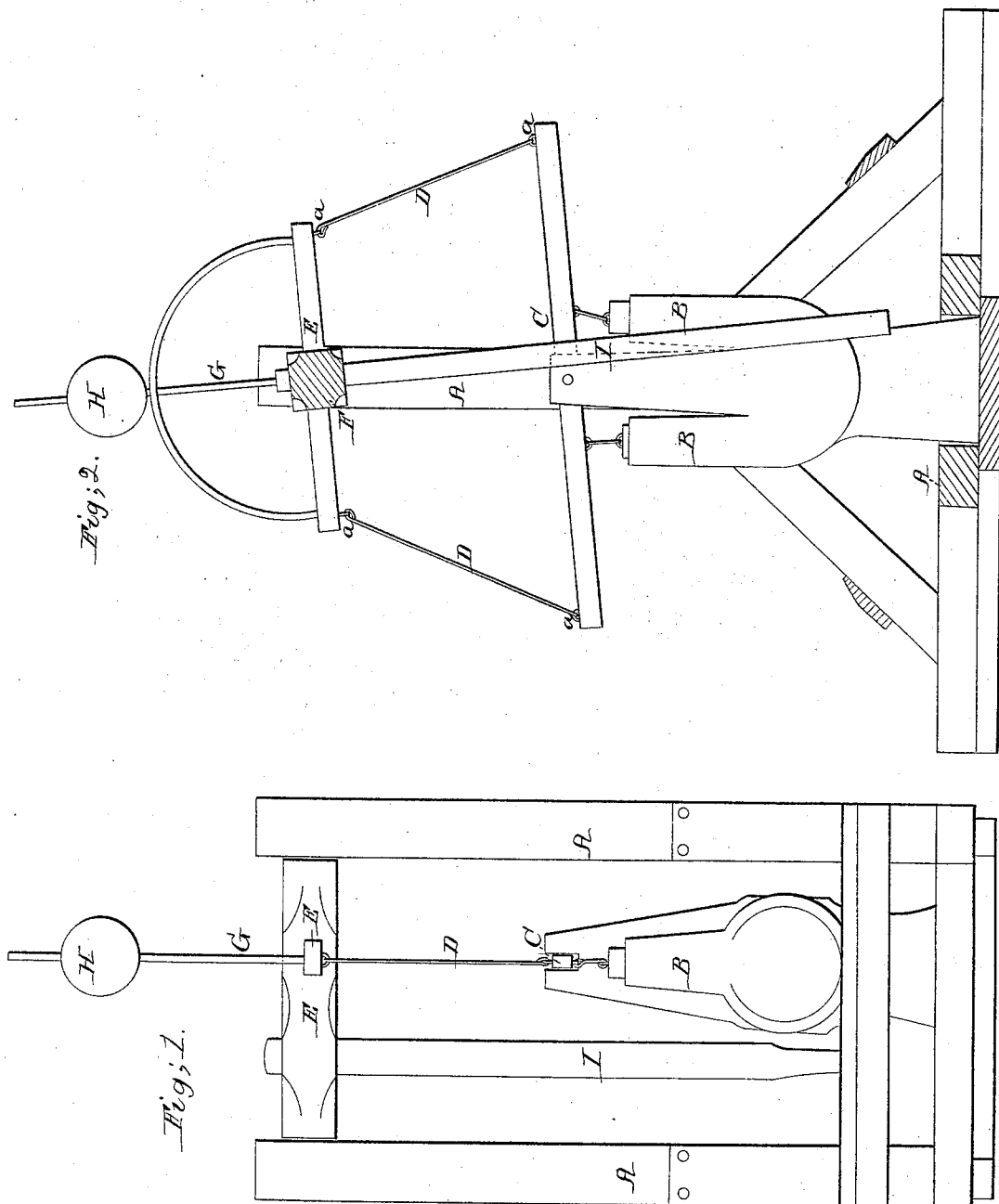


D. J. Rogers,
Converting Motion.

N^o 2,1904.

Patented Oct. 26, 1858.



UNITED STATES PATENT OFFICE.

DANIEL J. ROGERS, OF MAGNOLIA, NORTH CAROLINA.

MODE OF OPERATING PUMPS.

Specification of Letters Patent No. 21,904, dated October 26, 1858.

To all whom it may concern:

Be it known that I, D. J. ROGERS, of Magnolia, in the county of Duplin and State of North Carolina, have invented a new and useful Improvement in the Mode of 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 part of this specification, in which—

Figure 1, is a side view, and Fig. 2, a vertical transverse section of a pump constructed after my invention.

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

The nature of my invention consists in the arrangement of the flexible frame, elevated rocking shaft, pendulous lever, elevated ball and pump pistons in the relation to each other as shown. By this arrangement the labor of pumping is very greatly lessened and the operation facilitated as the power is applied indirectly with a great leverage in a small compass, through the flexible frame, and the gravity and momentum of the elevated ball are rendered available for aiding and augmenting the force applied when each reciprocating movement of the brake is near its terminus.

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

A, is a suitable frame for sustaining the working gear of the pump. B, B, are the two cylinders of a double acting lift and force pump.

C, D, D, E, represent the flexible frame for working the pistons of the pump. This frame consists of the lower horizontal rocking piston brake C, two vertical chains, or

pivoted rods D, D, and a horizontal cross head E. The chains or rods are connected by pivots or loose joints *a, a, a, a*, to the brake C, and cross-head E, so as to give the frame flexibility and thus a capability of accommodating itself to the motion of the rocking shaft F, to which the cross head is attached, without affecting the vertical or parallel movement of the pistons.

F, is a rocking shaft arranged at the upper part of the frame A, and carrying the flexible frame, and a vertical rod G, which has a weight or ball H, mounted on its upper end. To this shaft, the handle or actuating lever I, is attached and made to extend down to a position convenient for being operated by hand.

The principal excellence of this arrangement results from the indirect application of the power through the intermediate flexible auxiliary lever frame, actuated by a lever swinging back and forth horizontally and through the same the advantageous employment of the momentum and gravity of the ball to aid and augment the force applied when each reciprocating movement is nearly at its terminus.

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

The arrangement of the intermediate auxiliary lever, flexible frame C, D, D, E, pistons, elevated rocking shaft F, elevated weighted rod G, H, and pendulous handle or lever I, in the relation to each other shown, as and for the purposes herein set forth.

DANIEL J. ROGERS.

Witnesses:

H. BOURDEN,
WM. L. PARKER.