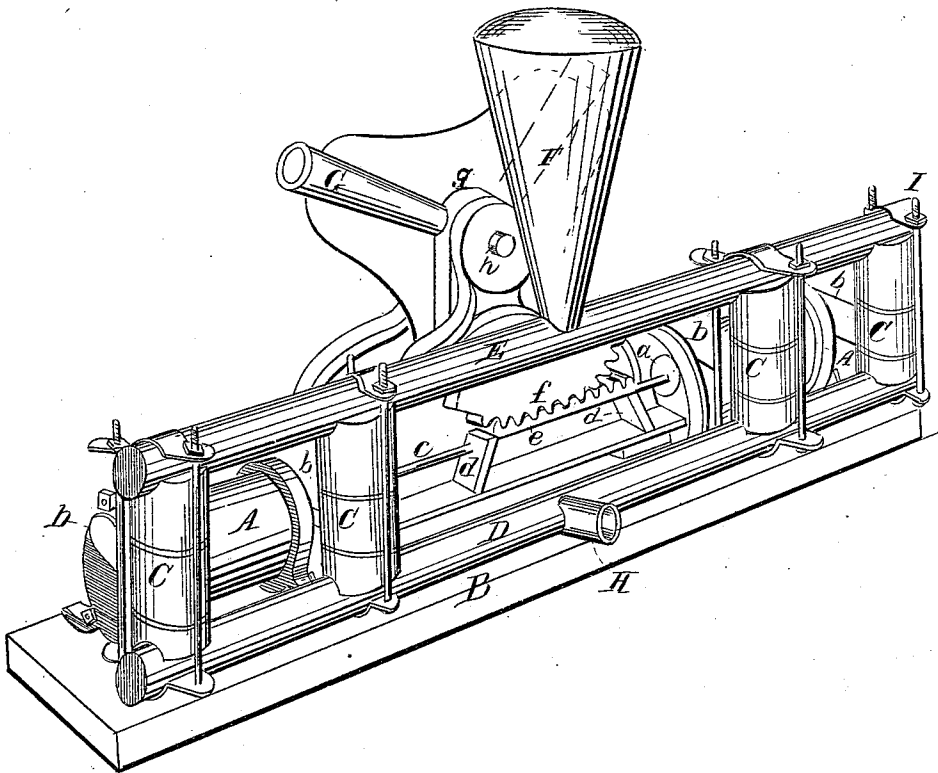


A. Dixon,

Double Acting Pump.

No. 94,190.

Patented Aug. 31. 1869.



Attest
W. F. Ebert
Thos S. Sprague

Inventor
Alexander Dixon

United States Patent Office.

ALEXANDER DIXON, OF AURORA, ILLINOIS, ASSIGNOR TO HIMSELF AND JAMES JOHNSON HALL.

Letters Patent No. 94,190, dated August 31, 1869.

IMPROVEMENT IN PUMPS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ALEXANDER DIXON, of Aurora, in the county of Kane, and State of Illinois, have invented a new and useful Improvement in Double-Acting Water-Engines; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and being a part of this specification.

The nature of this invention relates to an improved construction of a double-acting lifting and force-pump, and consists in the peculiar arrangement of the various parts, so that two pistons are operated in two distinct cylinders by one piston-rod, thereby securing the construction of an apparatus of great power, with a capability of discharging a large quantity of water to a great height, said apparatus being of comparatively little weight and small compass, easily carried and operated, not liable to get out of order, and very economical in cost.

In the drawings—

A represents two cylinders, securely fastened, at suitable distances apart, on the bed-plate or frame B.

These cylinders are provided with proper stuffing-boxes *a*, through which the piston-rod passes. They are also provided with side pipes *b*, leading from each head of each cylinder to the valve-chambers C, within which are placed suitable inlet and outlet-valves.

These valve-chambers are connected at their bottoms to the suction-pipe D, and at their tops to the discharge-pipe E, which is provided with a proper air-chamber, F.

The piston-rod *c*, sustained in its reciprocating motion in bearings *d*, is provided with a rack, *e*, rigidly secured to said rod, which engages with a segmental-toothed or cogged wheel, *f*, which is operated and semi-rotated by means of suitable handles inserted into sockets G, secured to the hub *g*, which is journalled at *h* for that purpose.

To operate this device, attach a suitable suction-hose to the connection H, and drop its opposite end into water. A proper hose or pipe should be also attached to the open end of the discharge-pipe, at I. Then, by alternately working the levers or handles which are inserted into the sockets G, backward and forward, a reciprocating motion is given to the piston-rod by means of the segmental pinion and rack, when the cylinders are alternately filled and discharged by the proper action of suitable valves in the valve-chambers, so that there is a constant stream of water discharged from the pipe.

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

The peculiar arrangement of the two cylinders A, bed-plate B, stuffing-boxes *a*, side pipes *b*, valve-chambers C, suction-pipe D, discharge-pipe E, air-chamber F, piston-rod *c*, bearings *d*, rack *e*, segmental-cogged wheel *f*, sockets G, and hub *g*, or their equivalents, when constructed, combined, and operating, substantially as and for the purposes herein described.

ALEXANDER DIXON.

Witnesses:

JAMES I. DAY,
H. F. EBERTS.