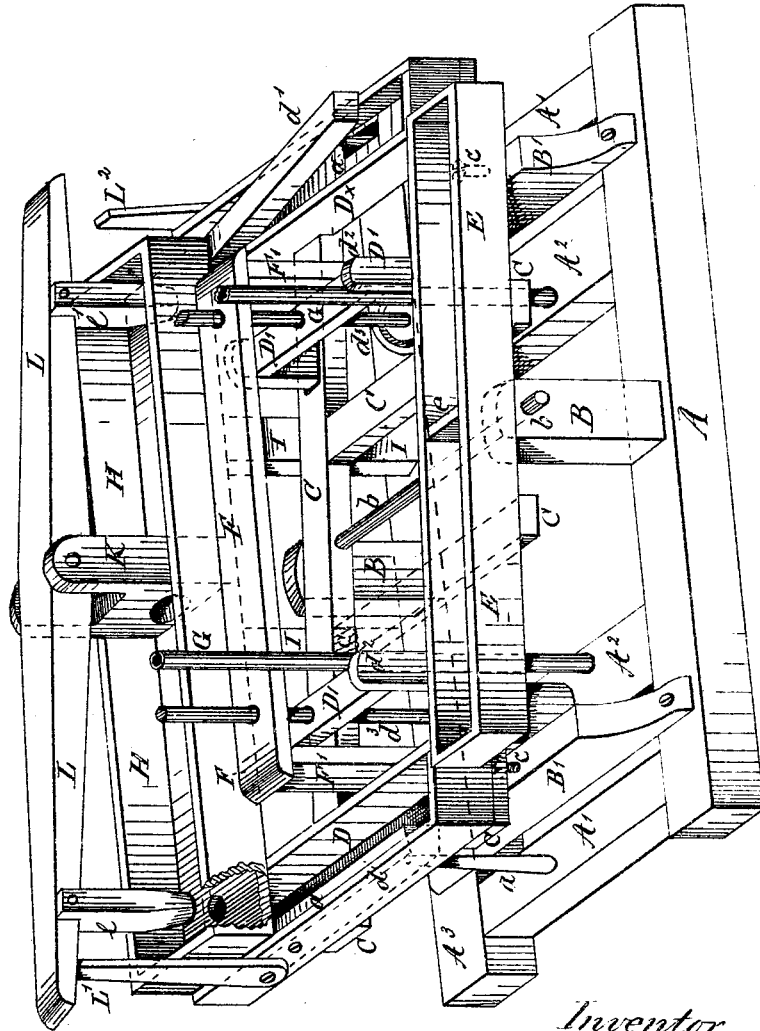


O. LINDLEY.

WATER-MOTOR.

No. 183,769.

Patented Oct. 31, 1876.



Witnesses.  
*Henry Orth*  
*H H Bliss*

Inventor.  
*Oliver Lindley*  
*by Durborn & King attys*

# UNITED STATES PATENT OFFICE.

OLIVER LINDLEY, OF CARTHAGE, MISSOURI.

## IMPROVEMENT IN WATER-MOTORS.

Specification forming part of Letters Patent No. 183,769, dated October 31, 1876; application filed September 4, 1876.

*To all whom it may concern:*

Be it known that I, OLIVER LINDLEY, of Carthage, in the county of Jasper and State of Missouri, have invented certain new and useful Improvements in Water-Motors; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

In the drawing, which is a perspective view taken from the front, A is the front sill of the main frame-work. A<sup>1</sup> A<sup>1</sup> are two end sills connecting the front sill with a similar rear sill, A<sup>3</sup>. A<sup>2</sup> A<sup>2</sup> are two intermediate sills or joists. B B are posts, rising from the central portion of sills A A, and supporting, by means of a pivot, b, a vibrating frame, C C C C. D D<sup>x</sup> are water boxes or receivers, one box being mounted upon each end of the vibrating frame. Each water-box has an opening in the bottom, closed, except as hereinafter provided, by means of valves d d<sup>1</sup>. E E is a water box or trough, supported upon the front side of the vibrating frame, and divided into two compartments by means of a partition, e. D' D' represent cross-heads, secured to the upper ends of arms d<sup>2</sup>, which are pivoted in the vibrating frame C C C C. Each cross-head D' carries a perpendicular pump-rod, d<sup>3</sup>. The upper ends of these rods play through holes cut for their reception in a plate, F, which is attached to the upper ends of posts F', rising from the main frame-work. a a' are valve-rods, rising vertically from sills A<sup>1</sup> A<sup>1</sup>, and entering the openings in the bottoms of the water-boxes D D<sup>x</sup>, to open valves d d when required, as will be explained. G G are discharge-pipes leading from pumps, the pistons of said pumps being attached to the lower ends of rods d<sup>2</sup> d<sup>2</sup>. H is a water-tank, supported from the main frame-work upon posts I I. At or near each end of tank H are openings or ports in the bottom, one of these ports being arranged above each of the water-boxes D D<sup>x</sup> in such manner that water will, when permitted, flow from the tank into the boxes. K is a standard, rising from tank H. L is a vibrating bar, pivoted to the upper end of

standard K, and carrying at each end valve-plugs l l', which fit closely and close tightly the ports in the ends of the tank H. L<sup>1</sup> L<sup>2</sup> are lifting-rods, secured to the ends of the vibrating frame C C C C in such position that, as said frame vibrates, these rods engage with the ends of the vibrating bar L, for a purpose which will soon be explained. c c are screws, projecting upward from blocks B' B' on the main frame-work, and forming adjustable stops, to limit the throw or movement of the vibrating frame C C C C and the vibrating bar L.

The water is to be fed into the tank H from any convenient source, and flows from thence through one of the ports into one of the water-boxes D D<sup>x</sup>. When the parts are in the position shown this will be the box D, at the left-hand end of the machine, and after the weight of water in this box becomes sufficient to overcome the resistance, this box will descend, elevating box D<sup>x</sup> at the other end of the vibrating frame. As box D descends, valve d strikes the valve-rod a and is opened thereby, thus permitting the water in box D to escape; and as box D<sup>x</sup> ascends the lifting-rod L<sup>2</sup> engages with and forces up the end of bar L, thus withdrawing valve-plug l' from its port in the bottom of tank H, and forcing down the plug l into the port at the other end of the tank. The water is then alternately delivered to, and emptied from, the water-boxes D D<sup>x</sup>, and a vibratory motion thereby imparted to the frame C C C C and pump-rods d<sup>3</sup>.

Of course the power may be applied to many other purposes than pumping, by properly adjusting the screws c c, the throw of the vibrating platform, and the lifting-rods L<sup>1</sup>, as may be required, in order to insure a proper working of the valve-plugs l l'.

I do not claim, broadly, the employment of water-boxes upon opposite ends of a vibrating arm or lever, in combination with a water-supply tank and valves; but I believe that the combination and arrangement of parts which I have invented is more simple and better adapted for general use than any other now in use, one desirable feature in my motor being the ease and accuracy with which the movement of the valve-plugs l l' may be regulated, to compensate for any warping or spring.

ing, or other change of the vibrating bar L or otherwise.

What I claim is—

1. The combination, with the vibrating platform or frame C C C C, of the water-boxes D D<sup>x</sup>, provided with outlet-valves *d d'*, the tank H, vibrating bar L, valve-plugs *l l'*, and lifting-rods L<sup>1</sup> L<sup>2</sup>, whereby each of the water-boxes in its ascent shuts off the supply of water from the water-box upon the opposite end of the vibrating platform, substantially as set forth.

2. In combination with the vibrating plat-

form C C C C, water-boxes D D<sup>x</sup>, vibrating bar L, valve-plugs *l l'*, and lifting-rods L<sup>1</sup> L<sup>2</sup>, the adjustable screws *c c*, whereby the movement of bar L by the vibrating platform may be regulated, substantially as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

OLIVER LINDLEY.

Witnesses:

O. W. LINDLEY,  
J. N. WILSON.