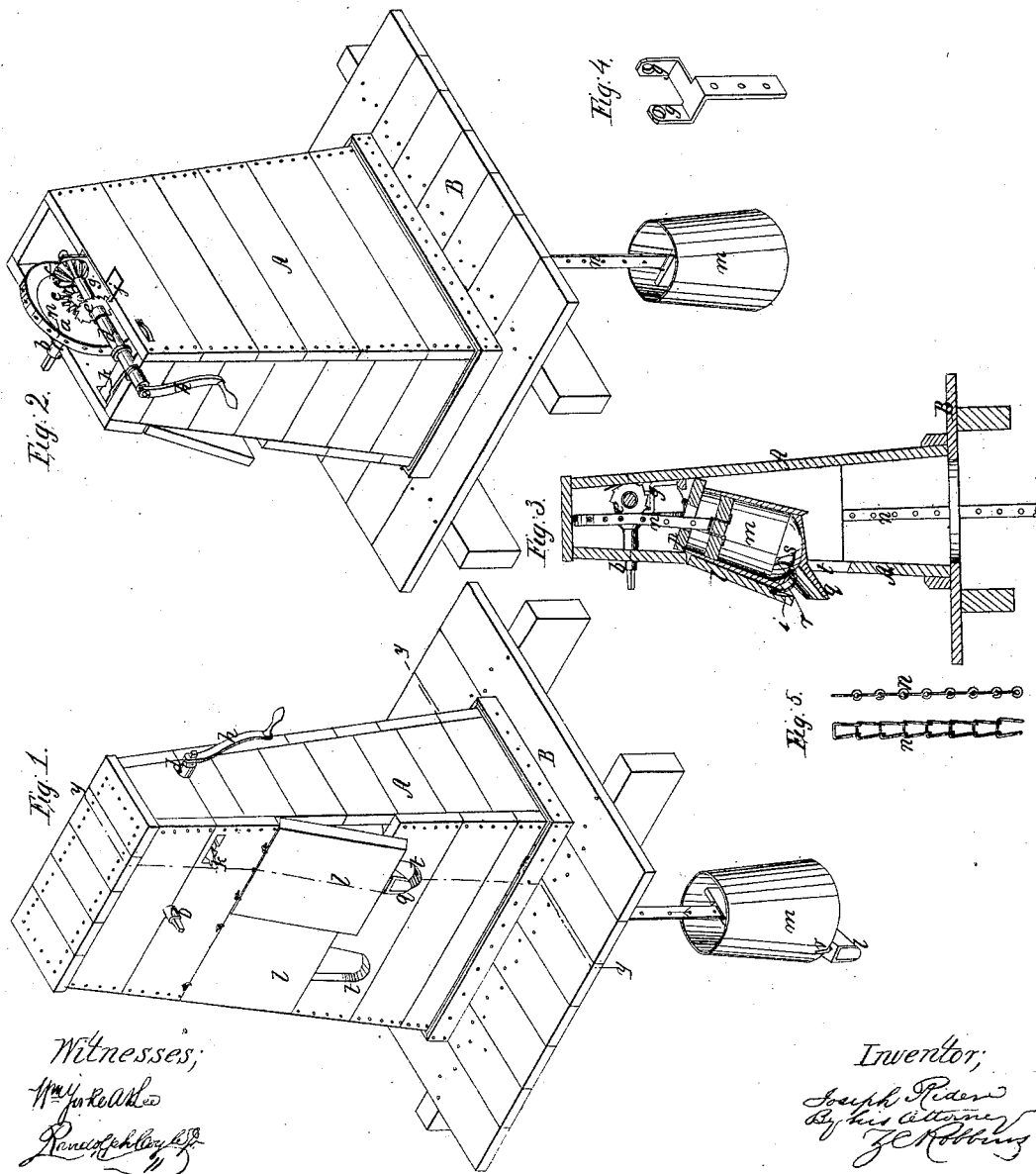


*J. Rider,*

*Windlass Water Elevator,*

*N<sup>o</sup> 33,007.*

*Patented Aug. 6, 1861.*



*Witnesses;*  
*Wm. J. Keane*  
*Randolph [Signature]*

*Inventor;*  
*Joseph Rider*  
*By his attorney*  
*J. Robbins*

# UNITED STATES PATENT OFFICE.

JOSEPH RIDER, OF NEWARK, OHIO.

## WATER-ELEVATOR.

Specification of Letters Patent No. 33,007, dated August 6, 1861.

To all whom it may concern:

Be it known that I, JOSEPH RIDER, of Newark, in the county of Licking and State of Ohio, have invented a new and Improved  
5 Apparatus for Drawing Water from Wells, Cisterns, &c.; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, which form a part of this  
10 specification.

Figure 1 and Fig. 2, are perspective views of my improved water-drawing apparatus; Fig. 3, a section in the line  $y, y$ , of Fig. 1; Fig. 4, a perspective view of a portion of the  
15 apparatus that is not clearly shown in the other drawings; Fig. 5, represents a form of bucket chain which I intend to use in the said apparatus.

Like letters refer to similar parts in all of  
20 the drawings.

My said improved water elevating apparatus consists essentially of the box, or curb, A, the large wheel  $a$ , the band or chain,  $n$ , and the two buckets  $m, m$ , together with the  
25 other auxiliary parts to be hereinafter described.

The operation of my improved water elevator is as follows. One of the buckets  $m$ , being full of water, is elevated, by means of  
30 the crank  $h$ , the shaft  $d$ , the gear-wheel  $e$  or  $f$ , (as the case may be) the main wheel  $a$ , and the band, or chain,  $n$ , until the upper edge of the bucket comes in contact with the partition  $p$ , which partition, being swung  
35 longitudinally upon a rod placed behind the middle thereof, yields upwardly and outwardly, in such a manner as to cause the bucket  $m$ , to swing outwardly to the position most clearly shown in Fig. 3; the spout  $q$ ,  
40 making its exit through the opening  $t$ , in the curb A, provided for that purpose. The door  $l$ , is partially opened by the pressure of the bucket  $m$  against it, and at the same time the curved valve-rod  $r$  catches in the notch  $i$ ,  
45 in the under side of the door  $l$ , thereby opening the valve  $s$  and causing the contents of the bucket to be discharged into a vessel placed upon the platform B for the reception thereof. During the elevation of the  
50 one bucket of course the other is descending; and, in order to elevate the lower bucket, which is now full of water, and to cause the upper bucket, now empty, to descend, it is not necessary to reverse the motion of the  
55 crank  $h$ ; but, by exerting a proper degree of

force, laterally, upon the lever  $k$ , the shaft  $d$  is shifted in its bearings, throwing the wheel  $e$  out of gear, and the wheel  $f$  into gear with the wheel  $c$ , which is cut on the face of the main wheel  $a$ , thereby reversing the motion  
60 of the wheel  $a$ , while the crank is continually turned in one direction. The band or chain  $n$  is prevented from slipping by means of short pins which project from the periphery of the main wheel  $a$ .  
65

That portion of my improved apparatus represented in Fig. 4 is attached to the curb A, in such a position that the limb  $g'$  thereof serves as a support for the inner end of the axle  $d$ , and the limb  $g$  serves the purpose  
70 of a support for the inner end of the axle  $b$ . By shutting the loop-catch  $j$  into one of the teeth of the wheel  $e$ , the buckets  $m, m$  may be held suspended at any desired height above the water. In case of accident to the  
75 gear wheels  $e, f$  or  $c$ , the crank  $h$  can be attached to the axle  $b$ .

I am aware that a stationary inclined partition has been used in a water elevating apparatus, with the view of accomplishing the  
80 same result that is attained in my improved water elevating apparatus by the use of the hinged partition  $p$ ; but, when this stationary inclined portion is used, the bucket, having reached the full height to which it is desired to elevate it, comes in contact with the  
85 said partition only in a few points; and, if the motion of the bucket in ascending is at all unsteady, the said bucket is liable, after having come in contact with the said stationary inclined partition, and during its  
90 outward movement, to waddle and possibly to roll back from its hold upon the said partition and reassume a vertical position; thereby rendering it necessary to lower the  
95 bucket a short distance, and to elevate it again with great caution and deliberation, in order that it may be properly guided forward to discharge its contents; whereas, when the hinged partition herein described is  
100 employed, the entire upper edge of the bucket comes in contact therewith, and the said hinged partition, yielding upward in front, invariably guides the bucket with unerring accuracy forward to the proper position for discharging its contents directly  
105 into a vessel placed upon the platform B, for the reception thereof.

Having thus fully described my improved water elevating apparatus, what I claim  
110

therein as my invention and desire to secure by Letters Patent, is—

The use of the hinged partition *p*, in connection with the buckets *m, m*, the notched  
5 swinging doors *l, l*, the curved valve rods *r, r*, and the valves *s, s*, substantially in the manner and for the purpose herein set forth.

The above specification of my improved

apparatus for drawing water from wells, &c., signed and witnessed this 20th day of April, 10  
1861.

JOSEPH RIDER.

Witnesses:

JAMES WILEY,  
J. H. WING.