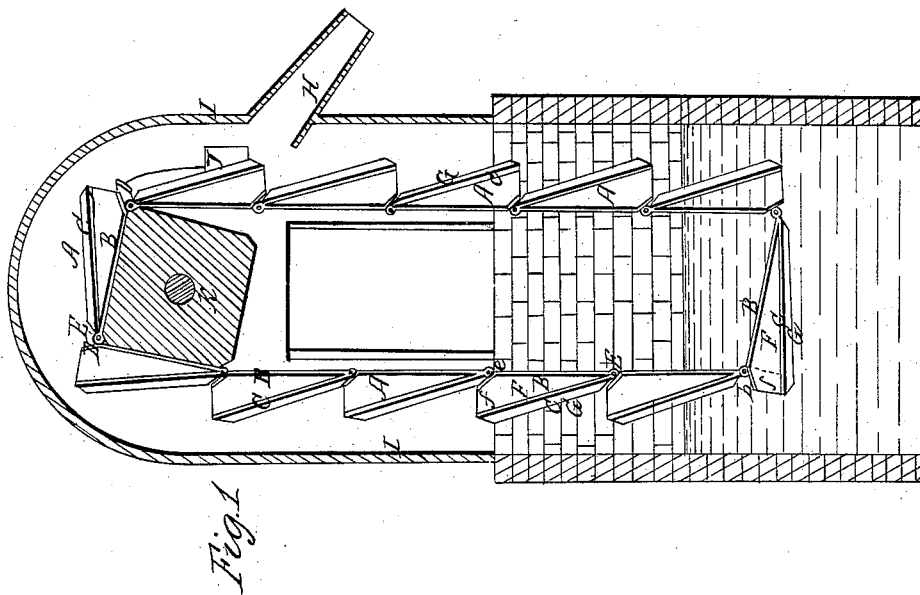
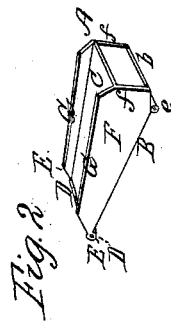


*J. Dutton,*  
*Chain Pump.*  
*No 2,290.*      *Patented Oct. 9, 1841.*



# UNITED STATES PATENT OFFICE.

JOHN DUTTON, OF ASTON TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA.

## ENDLESS-CHAIN BUCKET FOR RAISING WATER.

Specification of Letters Patent No. 2,290, dated October 9, 1841.

*To all whom it may concern:*

Be it known that I, JOHN DUTTON, of Aston township, Delaware county, State of Pennsylvania, have invented a new and useful Improvement in Construction of Endless-Chain Buckets for Raising Water and for other Purposes, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a side elevation or vertical section. Fig. 2 is a perspective view of the bucket.

Similar letters refer to corresponding parts.

This invention and improvement consists in casting the buckets A of a shape like that represented in Fig. 2—that is to say with the back B and front C united at one end which forms the bottom of the bucket and separated at the other end which forms the mouth, the sides being whole—the back having perforated ears E for the bolts or rods D to pass through which unite the buckets into an endless chain—the ears *e* next the mouth being two in number to admit the single ear E of the bottom of the succeeding buckets to enter between them, the back B being slightly curved upward toward the mouth as at *b* in order to form a beak, or spout, to discharge the water more freely into the shoot H and the sides F of the bucket being straight—except at the mouth where they are also slightly curved inward as at *f* for the purpose before mentioned of forming a beak for discharging the water more effectually into the shoot, and preventing its waste at the sides, the said sides of

the bucket projecting beyond the front *c* sufficiently far to form guards G for confining the water and directing it into the shoot, said guards forming a trough, or spout, on the back of the bucket for receiving the water from the succeeding bucket and conducting it into the shoot H. The shoot H, into which the water is emptied, by the buckets, is formed in front of the case I.

In the use of a square bucket the shoot may be formed in the side of the case as at J in which case the buckets must be closed at the top and bottom having the discharge openings in the side at which the water also enters, as the buckets dip into the water. The square shaft K for revolving the endless chain of buckets turns on gudgeons on the top of the case.

The buckets may be perforated in the bottom to let escape part of the water, if the buckets are formed to carry too great a quantity of water. This manner of connecting a chain of buckets may be used to advantage for propelling machinery by the weight of the water as well as for raising it.

The invention claimed and desired to be secured by Letters Patent, consists in—

The mode of constructing the buckets—that is to say curving the sides inward at the mouth to form a beak in combination with the spouts formed on the back of the buckets and the shoot H as before described.

JOHN DUTTON.

Witnesses:

S. E. FAIRLAMB,  
SAMUEL CARPENTER.