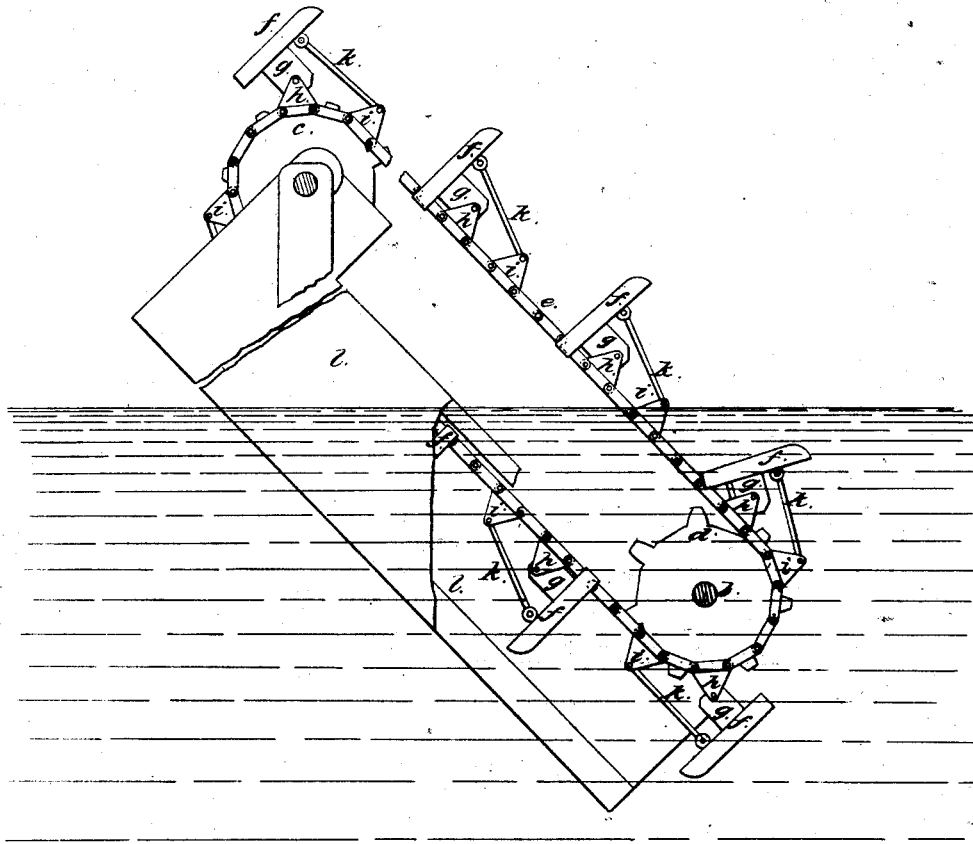


*L. A. Fisher,*

*Chain Pump,*

*N<sup>o</sup> 45,484.*

*Patented Dec. 20, 1864.*



*Witnesses:*

*F. Gould*  
*S. B. Kidder*

*Inventor:*

*L. A. Fisher*  
*By his atty*  
*W. B. Crosby*

# UNITED STATES PATENT OFFICE.

L. A. FISHER, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN CHAIN-PUMPS.

Specification forming part of Letters Patent No. 45,484, dated December 20, 1864.

*To all whom it may concern :*

Be it known that I, L. A. FISHER, of Chicago, Cook county, in the State of Illinois, have invented an Improved Chain-Pump; and I do hereby declare that the following, taken in connection with the drawing which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

This invention relates to the construction of chain-pumps; and it consists in a peculiar method of or mechanism for actuating the valves or buckets as they enter the water in the well or cistern to which the pump is applied, so that until each bucket enters the spout or tube through which the water is elevated it has the position best adapted for allowing it to pass through the water without obstruction to its movement.

The drawing shows my invention as embodied upon a floating pump designed for pumping water in large volume from ponds, ditches, &c., though the improvement is of course not confined to such application.

The general construction and operation of the pump will be readily understood from the drawing and need not be particularly described.

Shafts *a b* each carry a pair of sprocket-wheels, *c* and *d*, and around the upper and lower one on each side an endless chain, *e*, works, the buckets *f* being mounted upon and carried by these chains. Each bucket, instead of being made immovable with respect to the chains to stand in a position at right angles to the links from which the bucket projects as it passes from wheel to wheel, is so hung as to have its position changed as it passes around the wheels—this being effected as follows:

Each bucket is hung by brackets *g* (extending from, at, or near its opposite ends) to the tops of brackets or projections *h* on the chains *e*. From the links next beyond the links of the chain in advance of those from which the brackets *h* project are other and similar brackets or projections, *i*. From the tops of these brackets links or connecting-rods *k* extend to the top of the bucket in rear of the same, as seen in the drawing. As the links of the chains are brought around upon the perimeter of the sprocket-wheels the distance between the outer ends of the brackets *h i* is increased. When the brackets *i* begin to turn upon the wheels, their movement causes the connecting-rods *k* to turn the bucket to which they are jointed into the position seen in the drawing, by which they enter the water edgewise and present no obstruction to the movement of the chains and buckets until it comes into the tube *l*, or into the position therein in which it will lift a volume of water, filling the space between this and the next bucket in advance. The bucket is brought into this last position by the straightening of the links as they leave the sprocket-wheel, which carries back the brackets *h i* to their nearest relative position, and causes the bucket to stand at right angles to the general line of the links of the chains.

I claim—

The combination of the movable buckets with the mechanism for changing the position of the same, substantially as set forth.

L. A. FISHER.

Witnesses:

L. M. LULL,  
WILLIAM CASE.