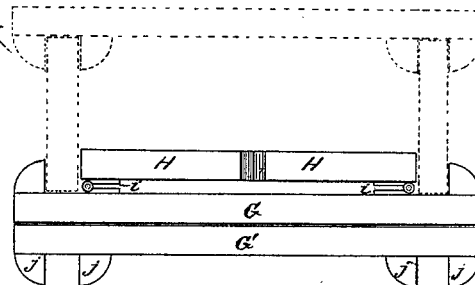
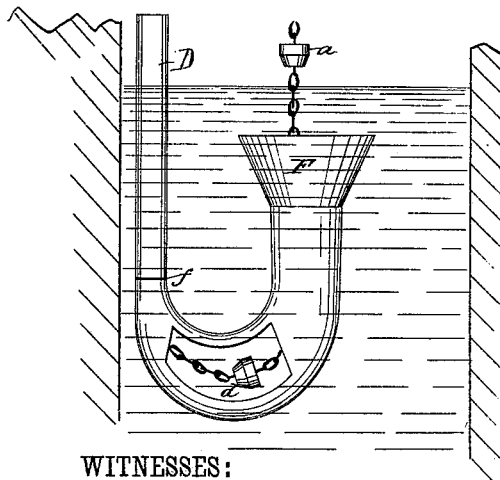
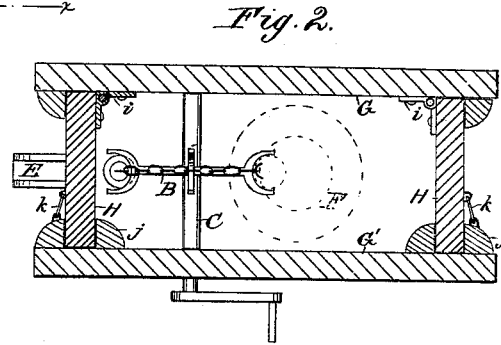
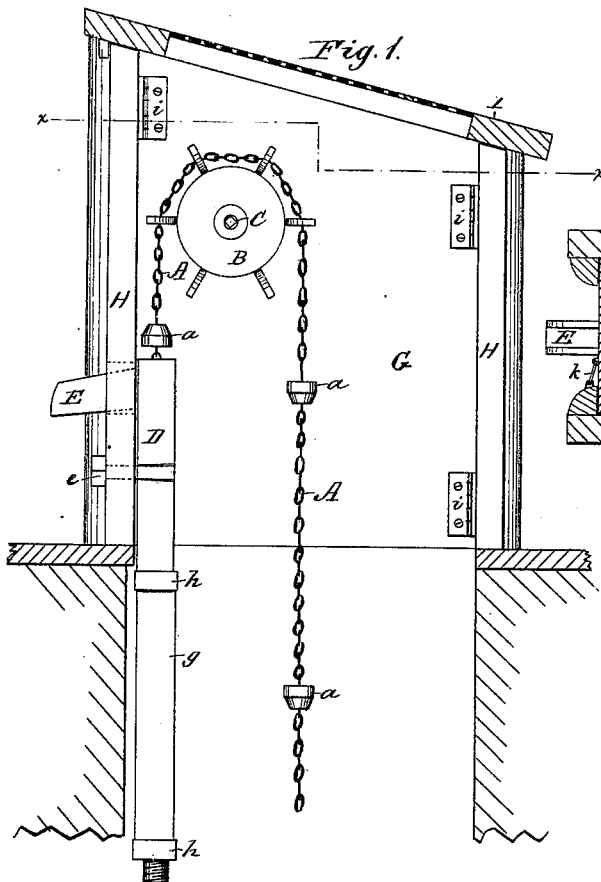


F. W. DEVINE.  
Chain-Pump and Curb.

No. 220,584.

Patented Oct. 14, 1879.



WITNESSES:

*W. W. Hollingsworth*  
*Edw. W. Byrn*

INVENTOR:

*F. W. Devine*

BY *Wm. L. E.*

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

FRANK W. DEVINE, OF CARROLLTON, MISSOURI, ASSIGNOR OF THREE-FOURTHS OF HIS RIGHT TO LAWRENCE A. DEVINE, R. W. GUNTER, AND B. MAGILL, ALL OF SAME PLACE; ONE-FOURTH TO EACH.

## IMPROVEMENT IN CHAIN-PUMPS AND CURBS.

Specification forming part of Letters Patent No. **220,584**, dated October 14, 1879; application filed August 28, 1879.

*To all whom it may concern:*

Be it known that I, FRANK W. DEVINE, of Carrollton, in the county of Carroll and State of Missouri, have invented a new and Improved Chain-Pump and Curb; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of the interior of the curb, the removable side wall being taken away, and the pump being shown in a well. Fig. 2 is a cross-section through the curb at the line *x x*, Fig. 1. Fig. 3 is an end view of the knockdown curb when folded, the dotted lines indicating its position when reconstructed.

My invention relates to certain improvements in chain-pumps and curbs; and it consists, first, in constructing the curb or casing above the ground in a hinged, folding, and readily-portable shape, as hereinafter described; and in combining the suspended chain with a pipe or tube terminating at one end in a discharge-spout, and at the other end in the well in the shape of a bent neck having a funnel-shaped mouth, the bend being made larger than the other portion of the pipe and provided with an opening for the purpose hereinafter described.

In the drawings, A represents the chain-wheel, which is of the usual pattern, and is provided at suitable intervals with buckets *a* of rubber or other suitable material. This chain is suspended upon a sprocket-wheel, B, at the top of the well, which wheel is attached to a shaft, C, provided with a crank-handle for turning the same. This chain passes down into the well through the pipe D, one end of which terminates in the discharge-spout E, at the top of the well, and the other end of which dips down into the water of the well, and then turns and terminates in the funnel-shaped mouth F, which receives the entering chain and prevents it from catching on the edges. This pipe D may be made entirely of metal, or the lower bent portion may be made of metal and the upper portion of wood. In the bend of this pipe, at the bottom, is formed an opening,

*d*, through which the water gains access to the tube when the water in the well falls below the funnel-shaped mouth.

As the chain passes through the pipe D its bend hangs suspended in the enlarged lower portion of the bent pipe without coming in contact with either the top or bottom of the walls of the pipe at this point, and, as there is no sliding friction and no lower sprocket-wheel to be traversed, the pump may be operated at an expenditure of much less power.

In securing the pipe in place it is bolted to the curb, as shown at *e*, and is also preferably stayed or braced in the lower portion of the well.

When the pipe D is made entirely of metal is composed of sections having screw-threaded connection, as at *f*; but when the upper portion is made of wood, as at *g*, the wooden portion is connected to the bent metal portion below by means of a screw-threaded metal collar, *h*.

When the funnel-shaped end of the pipe extends above the water-level, the air which is carried down by the buckets into the bent tube serves to aerate and purify the water. In such case the opening in the bend of the tube has an important function, in that it allows the air carried down by the chain to bubble up through the water of the well, and also permits the water to gain access to the chain, so as to be carried up to the spout.

In constructing the curb or casing, one of its sides, G, is connected to the end walls, H H, by means of hinges *i*, while the other side, G', is attached to the outer edges of the end walls, either by cleats *j* and hooks *k*, or by dovetail grooves *l*; or both sides may be fastened by the dovetail grooves.

I is the cover of the curb, which is arranged on the top of the same in inclined position, and is provided with a perforated ventilating-top, and is held in position by cleats, so as to be detachable. This construction of folding or knockdown curb permits these parts to be packed within a small compass and transported with facility, occupying only about one-third the room of the old form and securing a great saving in freight and storage.

With respect to the perforated or ventilating cover to the curb, I would state that I do not claim this feature.

Having thus described my invention, what I claim as new is—

1. A knockdown curb or casing for a chain-pump, consisting of the side walls, G G', end walls, H H, and detachable cover, the said end and side walls being detachably fastened by hinges and hooks or their equivalent, as described.

2. The combination, with a chain, A, suspended upon a sprocket-wheel, of the pipe D, terminating at one end in a discharge-spout, and formed at its lower end with an enlarged bend having an opening, *d*, and a funnel, F, substantially as and for the purpose described.

FRANK W. DEVINE.

Witnesses:

WM. G. PATTON,  
DAVID J. DEVINE.