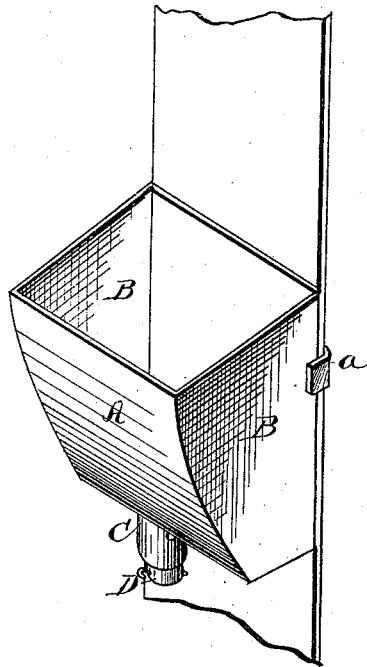


J. COPPOCK.  
Water-Elevator Buckets.

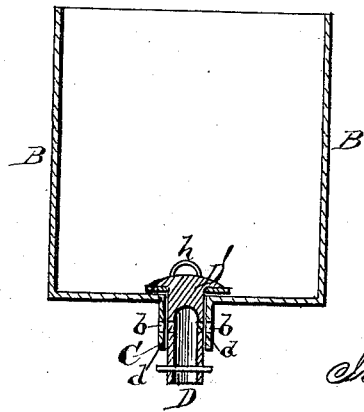
No. 197,830.

Patented Dec. 4, 1877.

*Fig. 1.*



*Fig. 2.*



*Witnesses:*

*H. M. Arthur,*  
*C. F. Evert,*

*Inventor:*

*John Coppock,*

*per*

*B. H. Alexander & Elliott,*

*Attorneys.*

# UNITED STATES PATENT OFFICE.

IRVIN COPPOCK, OF CARTHAGE, MISSOURI.

## IMPROVEMENT IN WATER-ELEVATOR BUCKETS.

Specification forming part of Letters Patent No. **197,830**, dated December 4, 1877; application filed July 21, 1877.

*To all whom it may concern:*

Be it known that I, IRVIN COPPOCK, of the city of Carthage, in the county of Jasper and State of Missouri, have invented certain new and useful Improvements in Water-Elevator Buckets; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

The nature of my invention consists in the construction and arrangement of a bucket for water-elevators and similar purposes, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, making part of this specification, in which—

Figure 1 is a perspective view of my improved bucket, and Fig. 2 is a vertical cross-section of the same.

In my well-bucket the back, bottom, and front are formed of one piece of metal, A, with end pieces B B inserted and fastened thereto in any of the known and usual ways. At the back of the bucket are formed or attached clasps *a a*, for fastening the same to the endless belt or chain.

For common well purposes the bucket will be substantially of the form shown in the drawing, while for mining or heavy work driven by machinery it will probably be longer in proportion to the width, and it is to be worked by a square-linked endless chain passing over spur-wheels at the top, and with or without stretching-pulleys at the bottom, of the well or shaft.

In the bottom of the bucket A B is attached a short downwardly-projecting tube, C, having holes *b b* at the sides. In this tube is

placed a hollow valve, D, with head D' at its upper end, and openings *d d* in its sides. Under the head D' is suitable packing *i*, and on the top of the head is a ring, *h*, as shown.

The bucket thus constructed enters the water mouth foremost, sinking freely with the links of the chain, the air passing out of the bucket through the air-valve D, and as the bucket leaves the top of the well on its downward motion this air-valve opens, causing the bucket to sink without pressure. As it turns to come up, the valve D drops back to its seat on the packing *i*, making the bucket water-tight, and when the bucket comes to the top, ready to discharge, the valve drops forward, and the air passes out at the cross-openings, forcing the water out quickly.

The openings *b* in the tube C are to admit air to cause the valve to drain itself while passing upward.

The ring *h* in the top of the valve is to admit of a hook to drain the buckets near the top of the well or shaft, to prevent freezing while standing still.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a well-bucket attached to an endless chain, an air-valve arranged in the bottom of the bucket, for the purposes herein set forth.

2. The combination of the bucket A B, having tube C, with side openings *b b*, and the hollow valve D, with head D', ring *h*, packing *i*, and side openings *d*, substantially as and for the purposes herein set forth.

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

IRVIN COPPOCK.

Witnesses:

E. S. WILLIAMS,  
A. L. THOMAS.