

F. POTTER.
CHAIN-PUMP BUCKETS.

No. 194,532.

Patented Aug. 28, 1877.

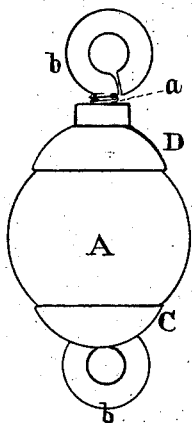


Fig. 1.

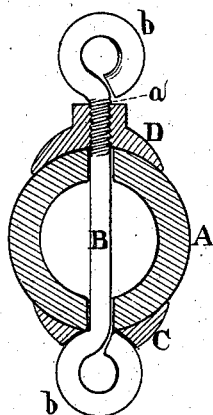


Fig. 2.

Witnesses,
Alexander Hammond,
For Assignor

Frederick Potter,
by E. Thurlow, Atty. in fact.

UNITED STATES PATENT OFFICE.

FREDERICK POTTER, OF BEARDSTOWN, ILLINOIS.

IMPROVEMENT IN CHAIN-PUMP BUCKETS.

Specification forming part of Letters Patent No. **194,532**, dated August 28, 1877; application filed May 15, 1877.

To all whom it may concern:

Be it known that I, FREDERICK POTTER, of Beardstown, in the county of Cass, in the State of Illinois, have invented an Improvement on Bucket or Valve for Chain-Pump, patented by Frederick Potter and Wm. Webb, August 15, 1876, No. 181,202; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making a part of this specification, in which like letters of reference refer to like parts, and in which—

Figure 1 represents a vertical elevation; Fig. 2, a vertical section.

This improvement consists in a stationary central stem made in one piece, which threads or passes through a concave washer at top and bottom of the elastic bucket, and formed of ductile iron or other metal, bent into eyes at one end after the bucket and washers are in place to hold the latter against the former. The neck of the stem, next to one of the eyes, may have a screw-thread around it, to work in a corresponding female thread in the adjoining washer, by which the elastic bucket can be compressed and expanded circumferentially to compensate—in a well-known mode—for wear against the tubing or pipe. The screw is placed at the upper extremity of the bucket, so that drainage may take place through the opposite or lower washer.

One of the forms in which I construct this bucket is as follows: The elastic bucket A may be of a spheroidal, ovate, or globular shape, and is compressed between concave washers C D by the wire stem B, which passes vertically the common axis of said washers and bucket A, and is bent immediately beyond each washer into eyes *b b* to receive the respective links or chain connected with the adjacent buckets of the chain. The neck of the stem A, under one of the eyes *b*, is cut with a thread, *a*, to work in the corresponding thread of the annexed washer by which to compress the elastic bucket, when circumferential wear ensues to the latter by friction on the interior of the pump-tubing.

The advantages of this improvement are, that the plan simplifies the construction of a chain-pump bucket, four pieces only being used, and, while having the advantage of an adjusting-washer with thread, is not liable to separation of the parts by the oxidation of said thread-connection and consequent falling of the chain and buckets down the reservoir, as is the case where one of the eyes *b* have a thread-connection with its stem, or a combined eye and washer as an ending for the stem, for in the present case the washer would only become loose, leaving the bucket and stem intact.

What I claim as my invention is—

1. The stem B *a b b* bent at either end into eyes *b b*—one eye at least—after the bucket and washers are in place, in combination with the bucket A and washers C D, substantially as and for the purposes described.
2. The combination, with stem B, provided with screw-washer D at its upper extremity, of washer C, confined on said stem by bending said stem into an eye, *b*, substantially as and for the purposes described.
3. The combination of stem B *b b a*, with washers C D, substantially as and for the purposes described.
4. The combination, with bucket A and washers C D, of the stem B *b b a*, applied and inserted and secured with the recurved eye *b*, substantially as and for the purposes described.
5. The combination and arrangement of the bucket A, washers C D, stem B, with thread *a*, and the finally-formed finishing-eye *b*, all substantially as described.

In testimony that I claim the foregoing improvement in chain-pump bucket I have hereunto set my hand this 1st day of May, A. D. 1877.

FREDERICK POTTER.

Witnesses:

THOS. H. CARTER,
CHAS. E. WYMAN.