S. F. LOCKWOOD.

CHAIN-PUMP BUCKET.

No. 187,151. Patented Feb. 6, 1877.

Fig: 1.

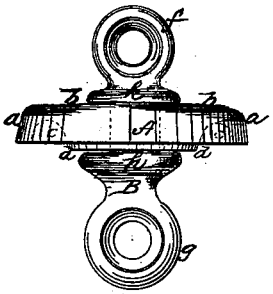


Fig: 2.

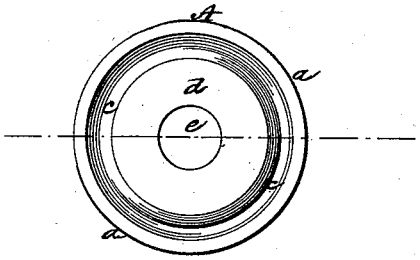
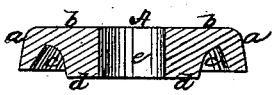


Fig: 3.



Witnesses:

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per Gridley & Griffin

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UNITED STATES PATENT OFFICE.

STEPHEN F. LOCKWOOD, OF STAMFORD, CONNECTICUT, ASSIGNOR OF ONE-HALF HIS RIGHT TO ELBERT WHITE, OF SAME PLACE.

IMPROVEMENT IN CHAIN-PUMP BUCKETS.

Specification forming part of Letters Patent No. **187,151**, dated February 6, 1877; application filed January 10, 1877.

To all whom it may concern:

Be it known that I, STEPHEN F. LOCKWOOD, of Stamford, in the county of Fairfield and State of Connecticut, have invented a new and Improved Bucket for Chain-Pumps; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making part of this specification.

This invention is in the nature of an improvement in buckets for chain-pumps; and the invention consists in a flexible bucket for chain-pumps, constructed with a disk of rubber, with a beveled edge and a plain surface on one side, and an annular channel and a central boss on the other side, combined with a link constructed with double flanges of different diameters, substantially in the manner and for the purpose hereinafter described.

In the accompanying sheet of drawings, Figure 1 is a side view of my invention; Fig. 2, a view of under side of elastic bucket, and Fig. 3, a transverse section of same.

Similar letters of reference indicate like parts in the several figures.

A represents the bucket of a chain-pump, which is made of india-rubber or any other flexible material, and of any suitable diameter to adapt it to the bore of the pump-barrel in which it is to be used. This bucket has its edge *a* beveled somewhat, and its upper surface *b* plain. Into its other or under surface is formed an annular channel, *c*, and a central boss, *d*. Through the boss *d* is a perforation, *e*. Combined with this bucket is a link, B, constructed with links *f* and *g*. This link has cast or otherwise formed upon its stem two flanges, *h* and *k*, the flange *k* being of somewhat smaller diameter than the flange *h*, so that the bucket may be fixed in position between these two flanges by simply stretching the opening *e* until it will be enlarged sufficiently to pass over the flange *k*, when the elasticity of the material of which the bucket is constructed will, after it has passed the flange, reduce the opening *e*, causing it to fit tightly on the stem of the link between the flanges *h* and *k*, the flanges retaining it in this position, and preventing it from being disturbed or displaced therefrom, the thickness of the boss *d* and bucket being about equal to the space between the two flanges.

Having now described the construction of my bucket, its operation, when linked onto the ordinary pump-chain and operated in the usual manner, is to pass through the pump-barrel with the plain surface of the bucket *b* upward, the beveled edge *a* facilitating its passage through the pump-barrel, and the thinness of the rubber, caused by the formation of the channel *c*, enabling the edge of the bucket to yield readily to any inequalities in the bore of the pump-barrel, and in this way not only preserving the close contact of the edge of the bucket with the bore, but also avoiding any undue amount of friction that would otherwise ensue if the bucket were formed of a disk of rubber of uniform thickness, and without the channel *c*.

The boss *d* affords sufficient surface and stiffness to the bucket to enable it to maintain its position between the flanges *h* and *k*, without liability of being detached therefrom in ordinary use.

The link B, as ordinarily constructed, has generally been made in two parts, the flange placed in position, and the link then united, and in this way securing the bucket to the link; but by reducing the diameter of one of the retaining-flanges so that the bucket may be stretched over it and into position, I am enabled to construct my link by casting or otherwise, in one part, and thereby reduce the cost of its construction materially.

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

1. A bucket for chain-pumps, made of a flexible material, and constructed with a beveled edge and with a plain face on one side,

and an annular channel and boss formed on the other side, substantially in the manner and for the purpose described.

2. In a bucket for chain-pumps, an elastic disk, with a beveled edge, and with a plain surface on one side, and an annular channel and boss on the other side, combined with a link made of one piece of metal, and provided with two flanges, one of said flanges being of less diameter than the other, substantially as and for the purpose described.

STEPHEN F. LOCKWOOD.

Witnesses:
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