

(No Model.)

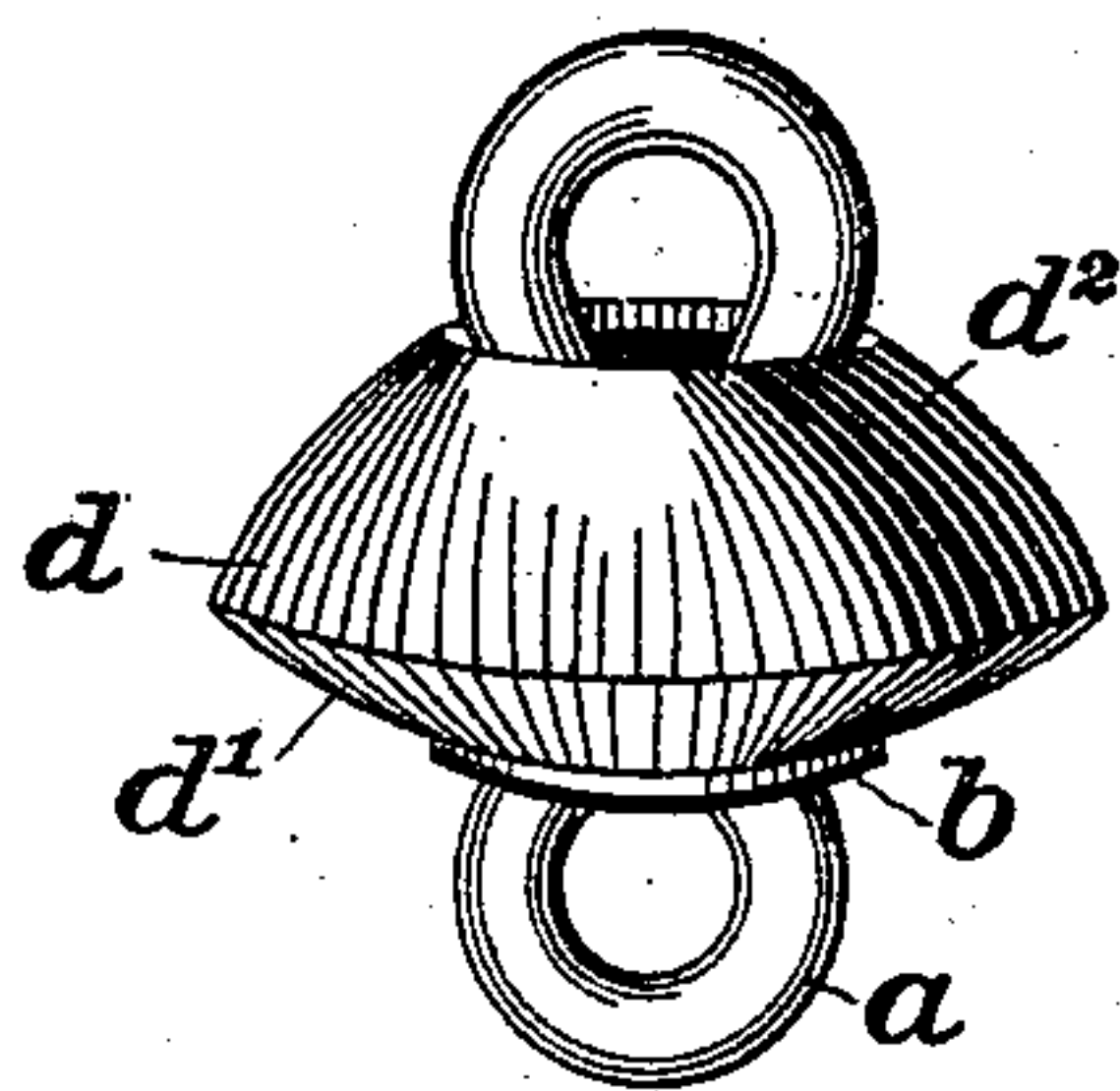
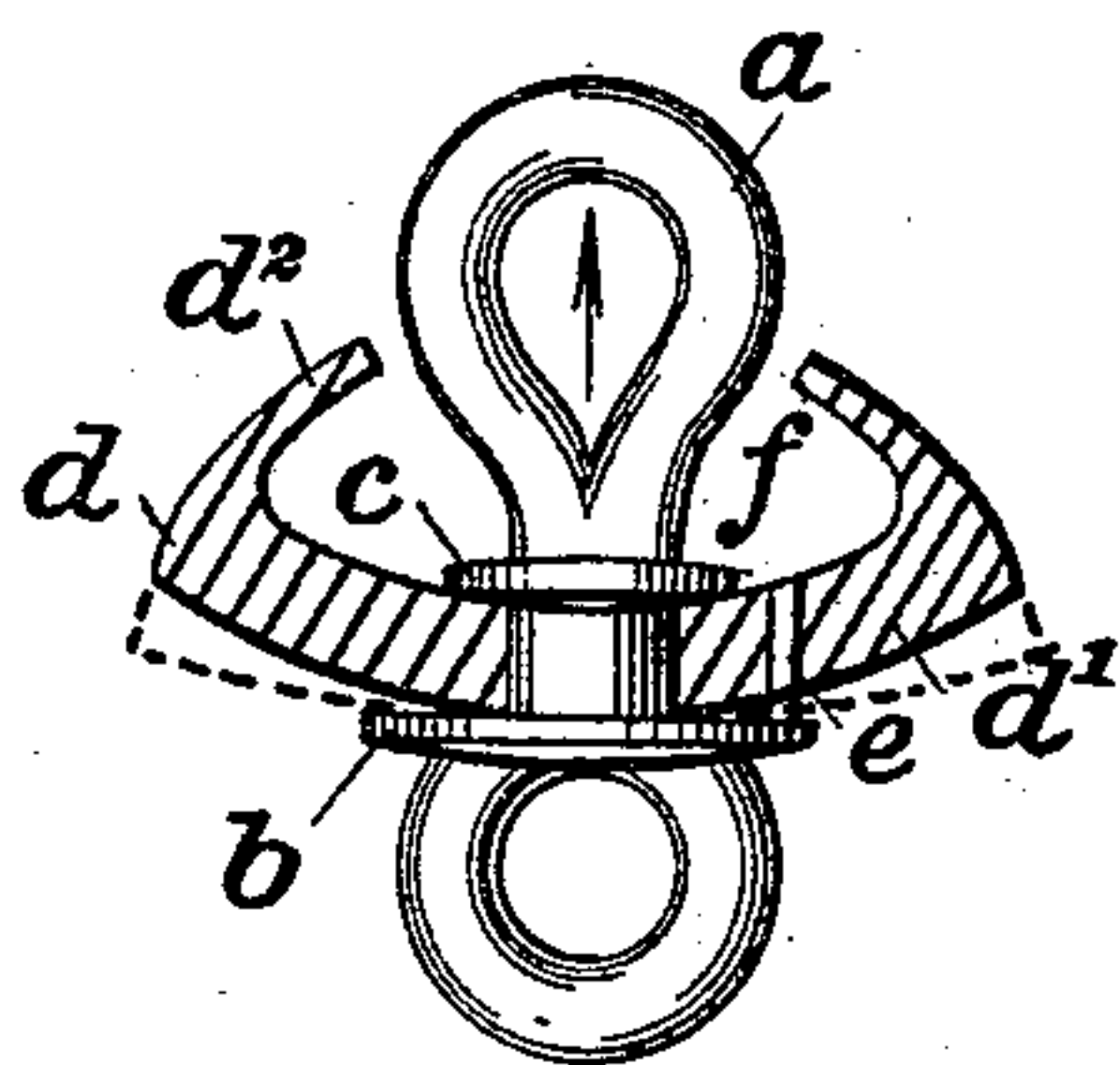
M. D. TEMPLE.

RUBBER BUCKET FOR CHAIN PUMPS.

No. 346,960.

Patented Aug. 10, 1886.

*Fig. 1*



*Fig. 2*

*Witnesses;*  
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# UNITED STATES PATENT OFFICE.

MORRIS D. TEMPLE, OF CHICAGO, ILLINOIS.

## RUBBER BUCKET FOR CHAIN-PUMPS.

SPECIFICATION forming part of Letters Patent No. 346,960, dated August 10, 1886.

Application filed December 29, 1884. Serial No. 151,374. (No model.)

*To all whom it may concern:*

Be it known that I, MORRIS D. TEMPLE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Rubber Buckets for Chain-Pumps, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part hereof, and in which—

Figure 1 shows a central longitudinal section of the rubber  $d$  of my improved bucket, and in which the link  $a$  is shown full. Fig. 2 is a perspective view of my bucket.

Like letters refer to like parts.

The object of my invention is to make a rubber bucket for chain-pumps which shall automatically expand to fill the bore of the tube by the weight of the water, and at the same time form an apparatus to convey air into the water of the well, and also, by its peculiar construction, automatically open and close the drip-hole of the bucket.

In the drawings,  $a$  is the link, provided with a wide flange,  $b$ , which forms a support for the rubber  $d$ . A slight flange,  $c$ , is also formed on the link, over which the said rubber is sprung, so as to hold it in its place. Said rubber  $d$  is formed of a stout concavo-convex disk,  $d'$ , upon the outer and concave or upper edge or side of which is attached a shell,  $d^2$ , so as to form a part of it, and which is in the form of a truncated hemisphere, with a large opening at its polar end, entering into the cavity  $f$ . A drip-hole,  $e$ , is formed in the disk  $d$ , so as to be within the circumference of the flange  $b$ .

In use the bucket passes upward through the tube, as indicated by the arrow. The weight of the column of water above is thrown upon the rubber  $d$ , which depresses it into the position shown by the dotted lines. This depression closes the drip-hole  $e$ , and also expands the disk  $d'$ , so as to fill the tube, the shell  $d^2$  increasing its resistance as the disk expands, until it touches the side of the tube,

and thus prevents the disk  $d'$  from being turned so as to be concave in the opposite direction. When the chain stops, it usually receives a slight backward motion, which throws the rubber into its normal position, as shown in full lines. This motion opens the drip-hole  $e$ , and allows the water in the cavity  $f$  to run out. When the bucket has passed beyond the top of the tube, the rubber springs into its normal position and opens the drip-hole  $e$ . The bucket, descending into the well with its open end forward, is again depressed into the position indicated by the dotted lines as it strikes the water, and thus the air-hole  $e$  is closed and the escape of air from the bucket prevented, which is thus carried down into the well for the purpose of keeping the water pure and palatable.

The form of the bucket as shown in the drawings is not essential, though preferable to any other. The rubber  $d$  may consist of two equal hollow hemispheres or cones placed base to base, or any other such form, without deviating from my invention.

What I claim is—

1. An automatically-expanding pump-bucket formed of a link,  $a$ , and the concavo-convex disk  $d'$ , provided at its upper and outer edge with a truncated hemisphere,  $d^2$ , substantially as specified.

2. An automatically-expanding pump-bucket formed of the link  $a$ , having flange  $b$ , carrying a concavo-convex disk,  $d'$ , provided at its upper and outer edge with a truncated hollow hemisphere,  $d^2$ , forming an open cavity,  $f$ , and a drip-hole,  $e$ , substantially as specified.

3. A hollow elastic bucket formed of two parts united at their outer edges so as to form one piece, and whereof the part attached to the chain is provided with self-opening drip-holes, in combination with a link having shoulder  $b$ , substantially as specified.

MORRIS D. TEMPLE.

Witnesses.

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