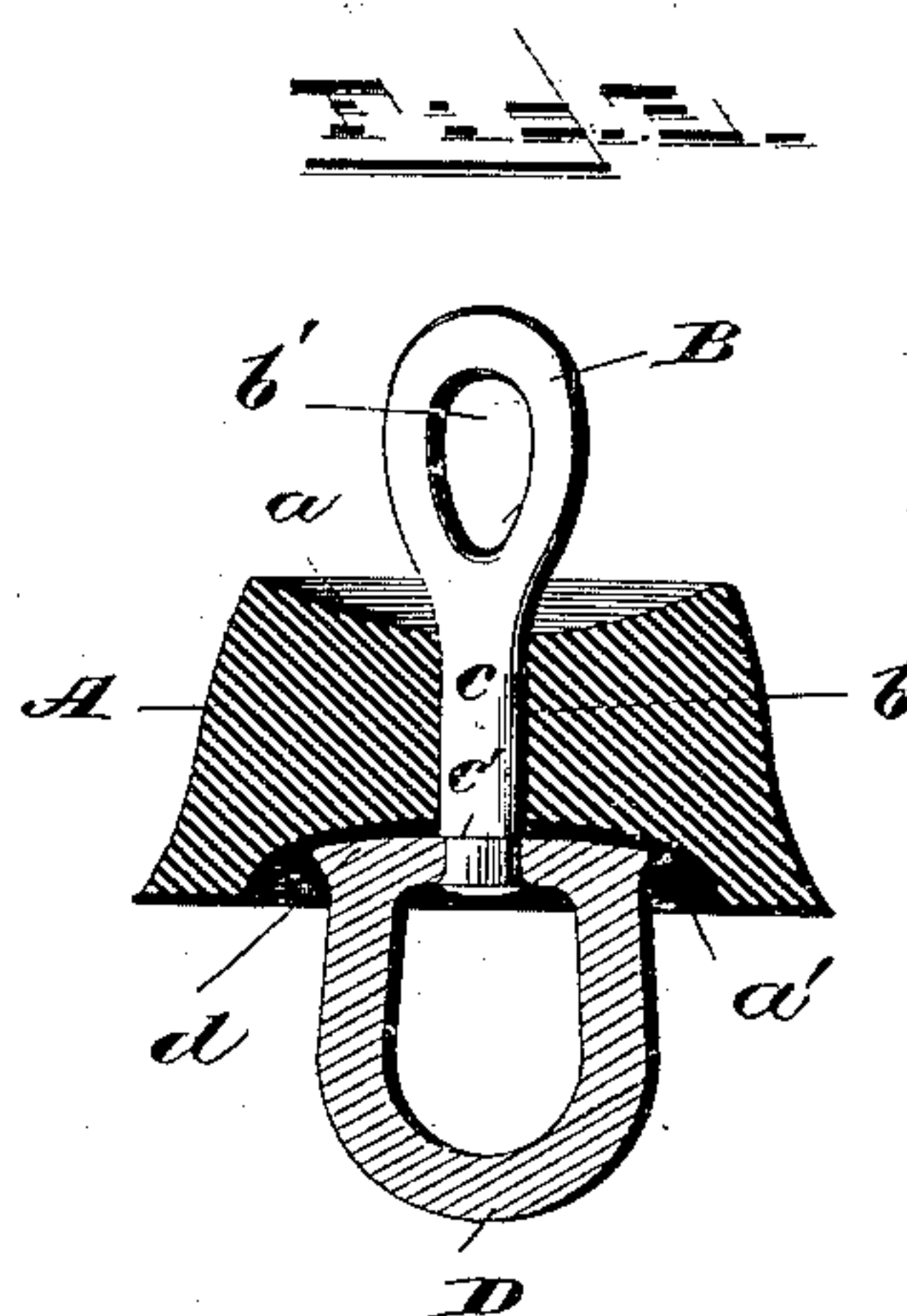
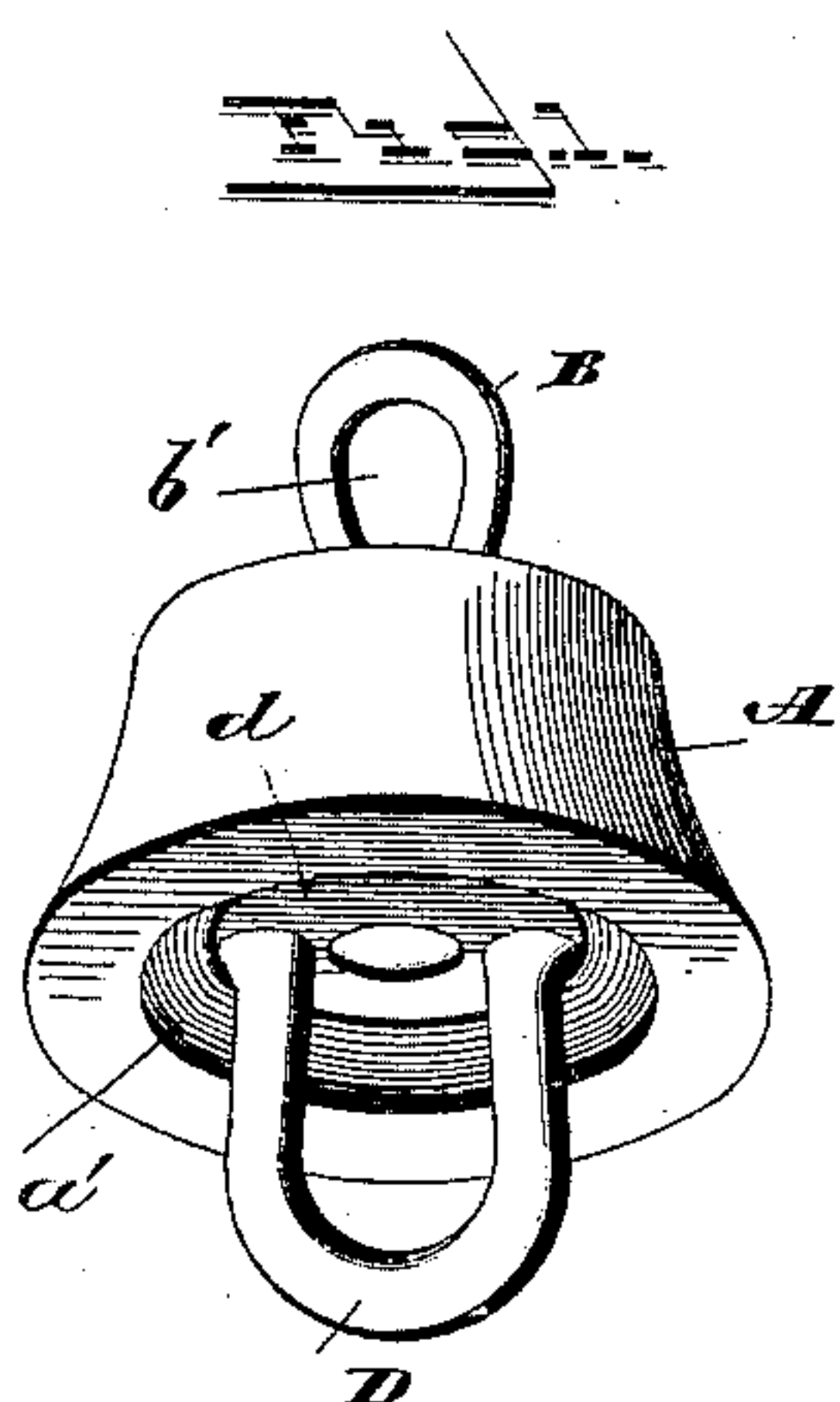


(No Model.)

A. D. CROSBY.
BUCKET FOR CHAIN PUMPS.

No. 409,562.

Patented Aug. 20, 1889.



Adon D. Crosby.

Witnesses

G. S. Elliott.
E. W. Johnson

Inventor

By his Attorney

Inven

UNITED STATES PATENT OFFICE.

ADON D. CROSBY, OF CUBA, NEW YORK.

BUCKET FOR CHAIN-PUMPS.

SPECIFICATION forming part of Letters Patent No. 409,562, dated August 20, 1889.

Application filed March 21, 1889. Serial No. 304,136. (No model.)

To all whom it may concern:

Be it known that I, ADON D. CROSBY, a citizen of the United States of America, residing at Cuba, in the county of Allegany and State of New York, have invented certain new and useful Improvements in Buckets for Chain-Pumps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to certain new and useful improvements in buckets for chain-pumps, the same being designed more especially as an improvement upon my patent, dated January 18, 1876, No. 172,395, in which patent I have described and claimed a bucket for chain-pumps, composed of india-rubber or other elastic material, having in its upper side a central concave recess for relieving the sides of the bucket from excessive pressure.

The object of my present invention is to provide a bucket which will not only have a central concave recess in its upper side, but also a concave recess in the under side, so that it will require less rubber to manufacture the bucket, the sides having an ogee curve to render the bucket bell-shaped, such a bucket being combined with a swivel the stem of which passes through an opening in the bucket, while the lower part of said swivel has a flat plate with an opening through which the stem passes, as will be hereinafter fully set forth, and specifically pointed out in the claim.

In the accompanying drawings, Figure 1 is a perspective view of a bucket for chain-pumps, constructed in accordance with my invention. Fig. 2 is a sectional view.

A refers to the bucket, which is made up of a solid piece of molded india-rubber provided in its upper side with a concave recess a , and in its under side with a concave recess a' , both recesses being practically of the same size and depth, more especially of the same diameter. The bucket is provided with a central opening b , through which the stem of the swivel passes. The sides of the

bucket are provided with an ogee curve, which gives to the bucket a bell-shaped form. The upper part of this curve commences at the outer edge of the concave a and extends beyond a vertical line intersecting the peripheries of the concaves, so that the lower edge of the bucket will be a suitable distance beyond the upper edge and provides a thin wall adjacent to the concave recess a' .

This specially-constructed bucket is adapted to be used with a swivel differing in some respects from the ordinary, which I will now proceed to describe: The upper part of the swivel B is provided with an eye b' and stem c , which may be of slightly larger diameter than the opening b through the center of the bucket. This stem is provided near its lower end with a shoulder c' , and below said shoulder with a reduced portion, which passes through an opening in the center of the plate d , formed integral with a loop D, which forms the lower part of the swivel. The upper part of the plate d is convex to fit the concave recess a' , and the diameter of this plate is considerably less than the diameter of the recess. The parts of the swivel are connected by upsetting the extreme end of the shank or stem c , and the parts should be so connected as to permit of a free rotation.

In practice when the bucket is drawn into the pump-tube the upward draw or pressure of the chain will draw the plate d against the bottom of the concave recess a' , and will tend to expand the upper part of the bucket above the plate. The lower part of the bucket, not having any resistance or pressure thereon, will be elastic and bear with slight pressure against the sides of the pump-stock, and the main point of wear of the bucket is at the lower edge, which has ample elasticity to expand and take up the wear. The upper concave directs the weight of the column of water above the recess, so that the weight of water assists in expanding the upper part of the bucket, and it also serves, when the bucket is reversed on its downward movement, to carry air into the well to assist in aerating the same.

I am aware that prior to my invention it was not broadly new to provide a bucket for chain-pumps with a swivel; also, that buckets

have been made of rubber, bell-shaped; also, that rubber buckets for chain-pumps have been provided with circular recesses on their lower sides, and I therefore do not claim such construction broadly; but

What I claim as new, and desire to secure by Letters Patent, is—

In a bucket for chain-pumps, the rubber A, having the concave recess *a* in its upper side, a concave recess *a'*, of substantially the same diameter formed in its bottom, the sides of said bucket being of ogee form to present the lower depending wall, as described, said bucket having a vertical central perforation, an upper eye carrying a stem within said perforation and of the same diameter throughout the length of the latter, the lower projecting end of the stem being reduced to form a

shoulder *c'*, the swivel D, having a plate *d*, permanently located within said lower recess and having its upper surface convex, said plate having a central opening in which the reduced end of the stem is riveted, so that said plate can bear pivotally against the shoulder *c'*, the construction being such that the upward draft on the eye will cause the plate *d* to expand the bucket while the lower depending walls are free to take up wear, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ADON D. CROSBY.

Witnesses:

GEORGE H. SWIFT,
T. J. CARMODY.