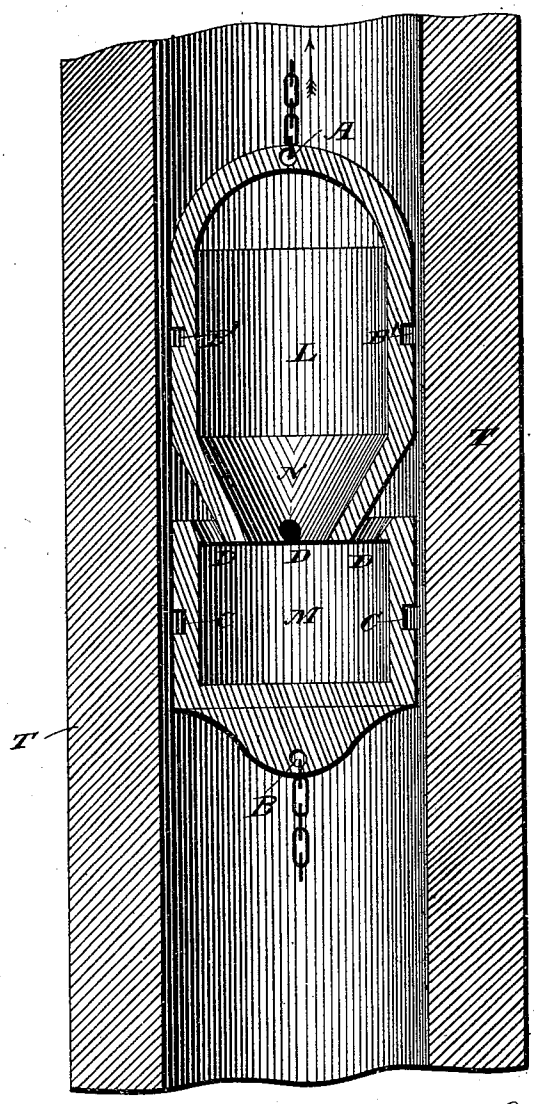
(No Model.)

H. JONES.

CHAIN PUMP.

No. 282,900. Patented Aug. 7, 1883.



WITNESSES:

Fred. G. Dieterich.

G. B. Wallis

Harry Jones.

by Louis Bagger & Co.

INVENTOR,

ATTORNEYS.

UNITED STATES PATENT OFFICE.

HARRY JONES, OF RICHMOND, ASSIGNOR OF ONE-HALF TO ROSWELL R. ROUSE, OF INDIANAPOLIS, INDIANA.

CHAIN-PUMP.

SPECIFICATION forming part of Letters Patent No. 282,900, dated August 7, 1883.

Application filed November 25, 1882. (No model.)

To all whom it may concern:

Be it known that I, HARRY JONES, of Richmond, in the county of Wayne and State of Indiana, have invented certain new and useful Improvements in Chain-Pumps; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, which forms a part of this specification.

My invention has relation to so-called "chain-pumps;" and it consists in the improved construction of a self-packing pump-bucket, as hereinafter more fully described and claimed.

In the accompanying drawing, I have shown a longitudinal sectional view of my self-packing bucket inserted into a section of the tubing in which it works. I have shown only one of these buckets, inasmuch as they are all constructed alike; but it is obvious that an indefinite number of buckets may be used connected by a chain in the usual manner.

My improved bucket is made in two parts, (shown at L and M.) These may be in one piece, or made separately and suitably united. The upper part, L, has a tapering or sloping bottom, N, while the lower part, M, is cylindrical in shape, of a diameter equal to the diameter of the cylindrical portion of the upper part, L. A and B are holes or apertures for the attachment of the chain connecting the several buckets. The top of the lower part, M, has a number of ducts, D, bored slantingly, so as to conform to the slant or incline of the tapering bottom N. The letters B′ and C denote circular grooves or channels made in the parts L and M, respectively, for the purpose hereinafter stated. I have only shown two of these channels; but there may be more, if desired, so that they are distributed on opposite sides of the ducts D.

The operation of this bucket is as follows: As it descends into the well or cistern in the direction of the arrow it is filled with air as it meets the surface of the water which enters the part L, forcing the air down into the closed bottom part, M, and out through the ducts D into the water. The water now enters part M through the tapering portion N of the upper part, and as the bucket is drawn through the water the pressure will force the fluid contained in the lower part, M, out through the ducts D, following the incline of the part N, and forming a water packing between the cylindrical sides of the bucket and the well-tube, the latter being indicated by the letter T. The circular channels B′ and C receive the outflow of water from the ducts D and form "dead-water" chambers, which effectually pack the bucket. The greater the velocity with which the bucket is drawn through the water the stronger will be the outflow through the ducts D, and in consequence the stronger and more effectual will be the packing.

Buckets of this class, as heretofore constructed with leather or other elastic packing, soon wear, owing to the very considerable friction to which they are subjected; but my improved bucket has no packing whatsoever except that formed by the water as it is drawn through it.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. A bucket for chain-pumps, consisting of the rigidly-connected parts L and M, and provided with inclined ducts D, opening out from the lower part, M, and following the incline of the lower section, N, of the top part, L, substantially as and for the purpose shown and set forth.

2. The improved bucket for chain-pumps herein shown and described, consisting of an upper part or section composed of a cylindrical portion, L, and tapering or funnel-shaped part N, and a cylindrical closed bottom, M, said parts constructed with the ducts D and circular channels B′ and C, arranged substantially as and for the purpose herein shown and specified.

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

HARRY JONES.

Witnesses:

FRANK BEEBE,

ISAAC B. RACE.