J. M. PHELPS.

CHAIN-PUMP BUCKETS.

No. 185,350. Patented Dec. 12, 1876.

Fig. 1.

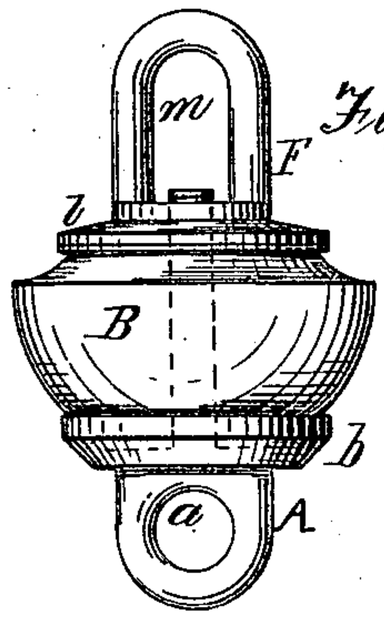


Fig. 3.

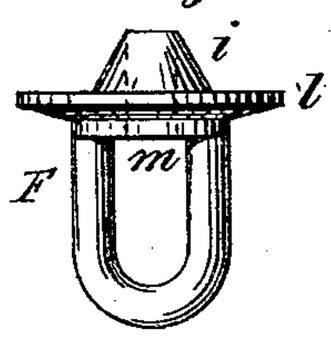


Fig. 4.

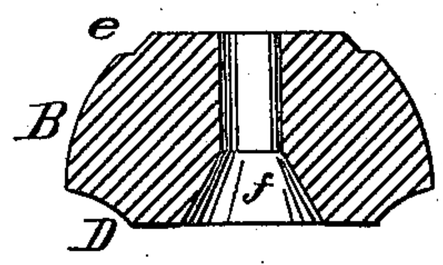
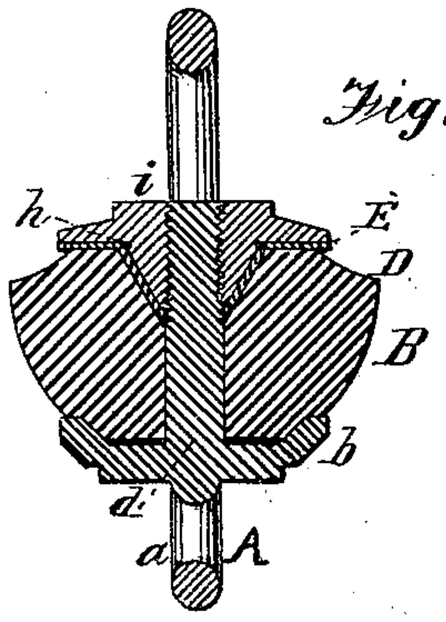


Fig. 2.



Witnesses:
Grenville Lewis
Chas. C. Gill

Inventor
Jothum M. Phelps
by his Attys
Cox & Cox

UNITED STATES PATENT OFFICE

JOTHREM M. PHELPS, OF QUINCY, ILLINOIS, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO LOUIS L. WARE, OF SAME PLACE.

IMPROVEMENT IN CHAIN-PUMP BUCKETS.

Specification forming part of Letters Patent No. **185,350**, dated December 12, 1876; application filed October 13, 1876.

To all whom it may concern:

Be it known that I, JOTHREM M. PHELPS, of Quincy, in the county of Adams and State of Illinois, have invented a new and useful Improvement in Chain-Pump Buckets, of which the following is a specification, reference being had to the accompanying drawings.

The invention relates to an improved chain-pump bucket; and consists in the devices substantially as hereinafter more fully described.

Figure 1 is a side view of a device embodying the elements of the invention. Fig. 2 is a central vertical longitudinal section of same. Fig. 3 is a side elevation of the device F, and Fig. 4 is a central section of the dome A.

In the accompanying drawings, A represents a cap, provided with the loop *a* at its upper part, which loop, at its base, is united with a plate, *b*, the edges of which are turned down, and from the center of which projects the standard *d*, threaded throughout its entire length. Upon this standard is placed the rubber dome B, which may be of any flexible material, and is of the form of a truncated cone, having near its apex the recess *e*, which receives the cap or plate *b*, and secures it in a water-tight manner upon the dome, leaving the parts thereof adjacent the edge of the plate flush therewith. In the base of the dome is provided the conical aperture *f*, which, in the present instance, is faced with a piece of metal of corresponding dimensions. The base of the dome is cut away for a certain space within its periphery, forming about the aperture *f* an annular raised rim or shoulder, D, whereon is placed the washer E, provided at its center with the aperture *h*, through which extends the upper part of the cone *i* upon the upper surface of the plane *l*, below which is provided the loop or swivel *m*, while a threaded aperture extends directly through from the top of the cone *i* to the lower surface of the plate *l*. The plate, cone, and loop are preferably made in one piece, forming the device F. The cone *i* is somewhat larger in dimensions than the interior of the aperture *f*.

Now, it is obvious that when the dome B is placed upon the standard *d*, with the washer E below, and the device F screwed up on the standard, that the cone *i* will enter the aperture *f*, and in proportion as the device F is screwed up the standard so will the flexible material about the aperture and the periphery of the base of the dome B be expanded. At the same time the washer E will be held in a water-tight manner against the dome by the pressure of the plate *l*, thereby preventing the ingress of moisture, and also preventing the dome B from twisting when the cap A is turned.

It is plain from the above that the devices form a bucket having a flexible center, the base of which can be expanded as desired to suit pipes of varying sizes, and which at the same time is protected against the ingress of water.

It is also clear that the metal lining of the aperture *f* may be dispensed with, if desired, and the cone act directly upon the rubber.

I am aware that chain-pump buckets have been made having conical apertures in the top or apex of dome-shaped centers; but such arrangements do not serve to expand the base of the dome, but only its sides. I do not, therefore, claim such construction; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The dome B, provided with the recess *e*, in combination with the cap A, having the plate D with its dependent edges, as set forth.

2. The dome B, having the conical aperture *f* in its base, in combination with the washer E, cone *i*, plate *l*, and threaded standard *d*, substantially as set forth.

In testimony that I claim the foregoing improvement in chain-pump buckets, as above described, I have hereunto set my hand this 6th day of October, 1876.

JOTHREM M. PHELPS.

Witnesses:
HENRY F. J. RICKER,
HENRY ROOT.