

(No Model.)

J. J. HARRIS.
CHAIN PUMP BUCKET.

No. 257,321.

Patented May 2, 1882.

Fig. 1.

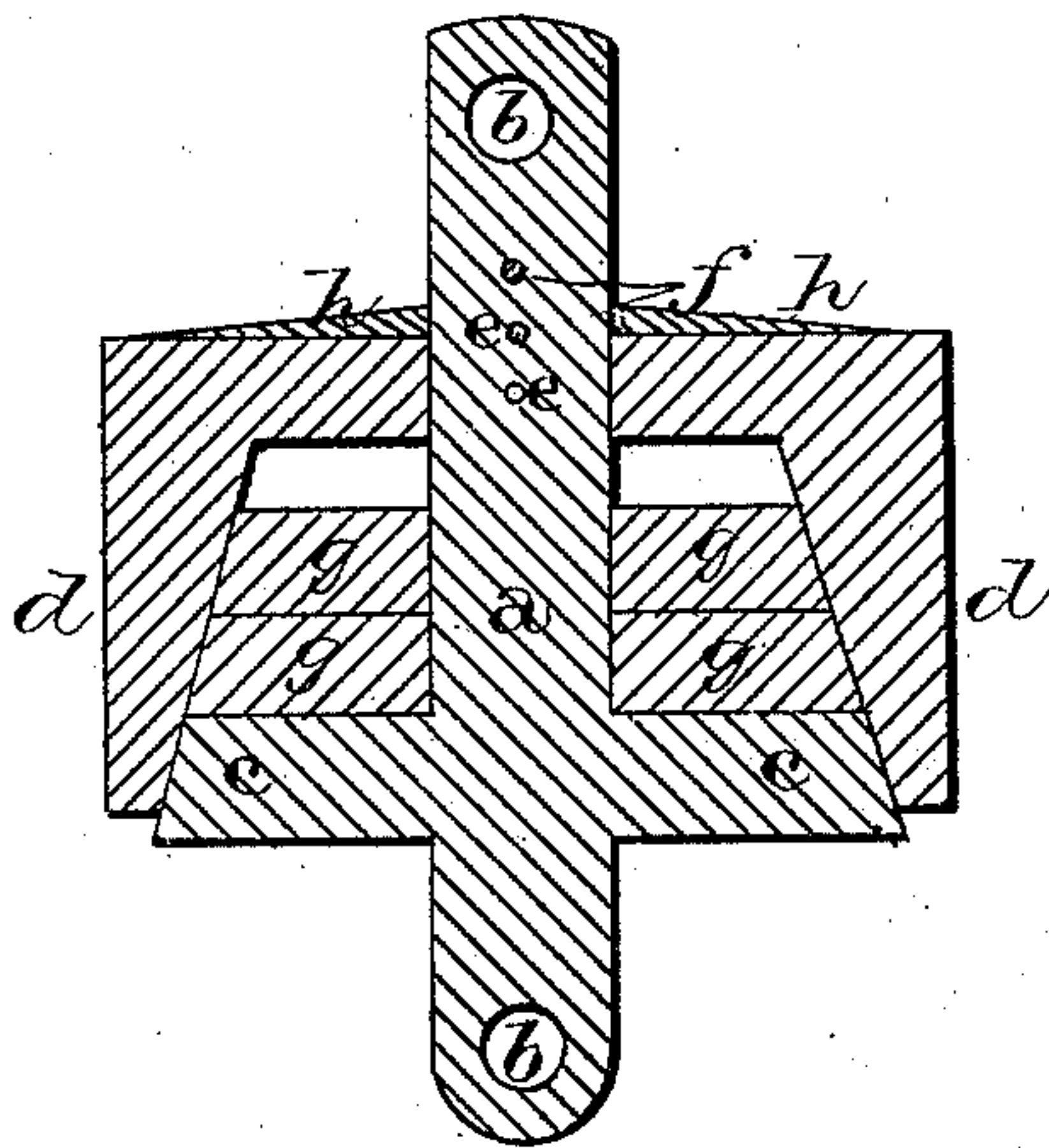
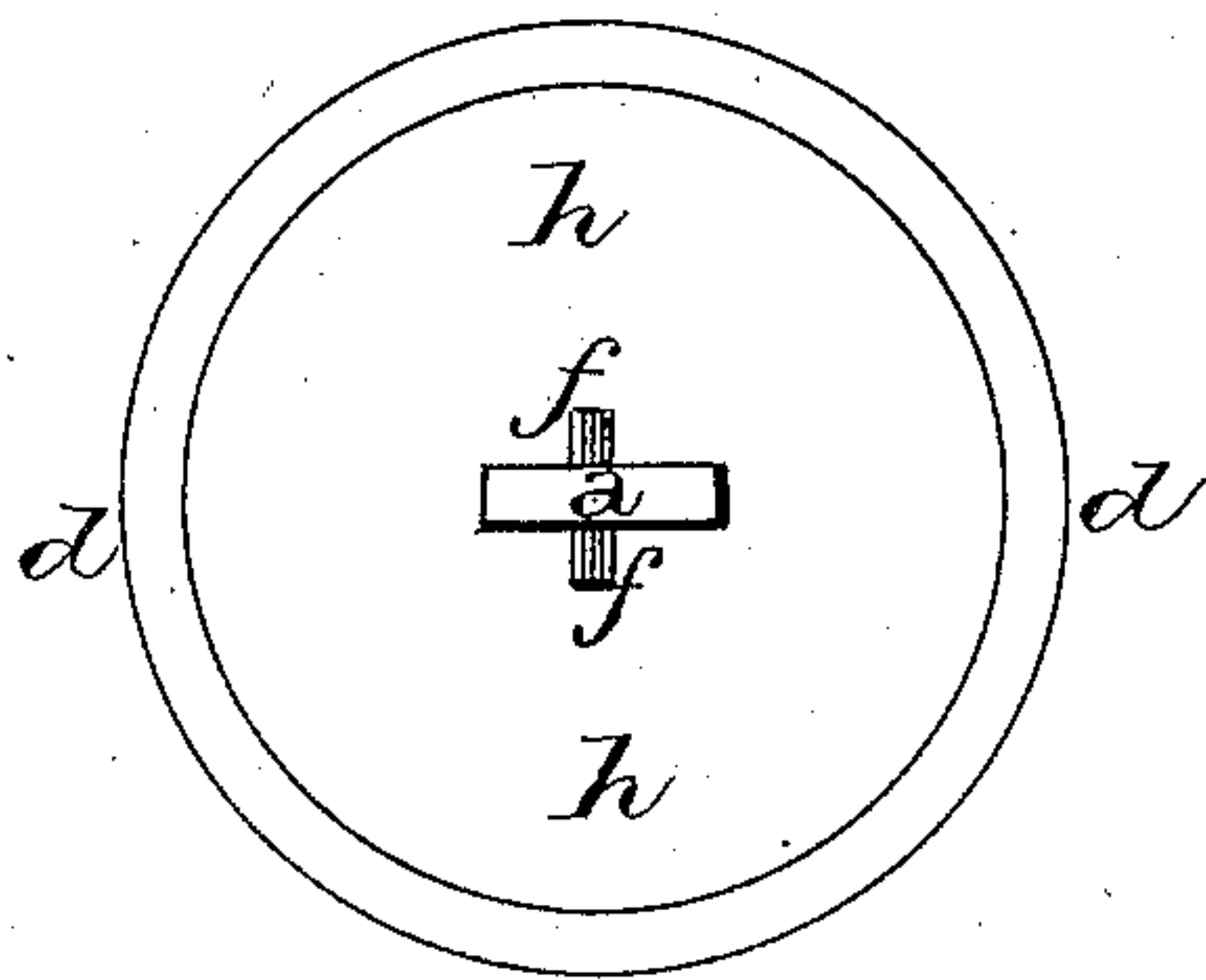


Fig. 2.



WITNESSES.

W. W. Mortimer,
W. H. Kern.

INVENTOR

J. J. Harris,
per
F. A. Lehmanns,
att'y

UNITED STATES PATENT OFFICE.

JOSEPH J. HARRIS, OF PETERSBURG, MICHIGAN.

CHAIN-PUMP BUCKET.

SPECIFICATION forming part of Letters Patent No. 257,321, dated May 2, 1882.

Application filed August 19, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH J. HARRIS, a citizen of the United States, residing at the village of Petersburg, county of Monroe and State of Michigan, have invented a new and useful Improvement in Chain-Pump Buckets, which is fully set forth in the following specification and accompanying drawings.

My invention relates to an improvement in chain-pump buckets; and it consists in the combination of a link having a conical enlargement on its lower end and a series of holes through its upper ends, two or more conical washers which are passed down over the top of the link, and a bucket having a conical recess in its lower end, so as to fit down over the link and the washers, as will be more fully described hereinafter.

The object of my invention is to produce a bucket for chain-pumps, which can be expanded after it has become worn away, so as to cause it again to fill the bore of the pump-stock.

Figure 1 is a vertical section of my invention, and Fig. 2 is a plan view of the same.

a represents the pump-link, which has an opening, *b*, made through each of its ends, so as to connect it with the other links of the chain. At a suitable distance from its lower end is formed the enlargement *c*, which has its outer edges made conical, so as to fit inside of the lower edge of the recess made in the bottom of the bucket *d*. Through the upper portion of the link are made a series of holes, *e*, through which is passed the pin *f*, which holds the bucket in place.

Upon the top of the enlargement *c* are placed two or more washers, *g*, which have their outer edges made conical, and preferably on a line with the outer edge of the enlargement. When the bucket is new all of the washers are used, and they fit snugly in the recess made in the bottom of the bucket, and hold the bucket firmly in place upon the link. After the bucket has been used for some time and has become worn, so that it no longer fits the bore of the stock, one of the washers is removed, and then the bucket is forced downward upon the re-

maining washers until the bucket has been expanded sufficiently to fill the bore again. The top of the bucket is nearly covered by the metallic washer *h*, which serves to hold the bucket rigidly in place, and prevents it from being cut by the pin *f*. As the bucket is worn away and is forced downward over the tops of the washers and enlargement the pin is transferred from a higher to a lower hole, so as to hold the bucket in whatever position it may be adjusted. In case the washers do not entirely fill the conical recess in the bucket when it is first applied to the link, the bucket may receive several adjustments before one of the washers has to be removed.

I am aware that a rubber pump-bucket having a recess in its bottom and used upon a link having an expanding device to fit in the recess, whereby the bucket can be expanded, so as to fill the pump-tube, is not new; and this I disclaim. My invention differs from this in having washers slipped down over the upper end of the link and made to fit in the recess in the bucket, as described above.

Having thus described my invention, I claim—

1. In a chain-pump bucket, the combination of the bucket having a conical recess in one end, the link *a*, having a conical enlargement to fit in said recess, and two or more washers, *g*, made to fit over the link in the recess, the said washers being made of unequal size and removable from the link, substantially as shown.

2. In a chain-pump bucket, the combination of the bucket *d*, having a conical recess in one end, the link *a*, having an enlargement to fit in the end of the recess, and provided with a series of holes at its upper end, washer *h*, pin *f*, and removable conical washers *g*, the parts being arranged to operate substantially as set forth.

JOSEPH J. HARRIS.

Witnesses:

HENRY C. McLACHLIN,
SAMUEL J. HARSHMAN.