G. LORD.

Dredging Buckets.

No. 197,384. Patented Nov. 20, 1877.

Fig. 1.

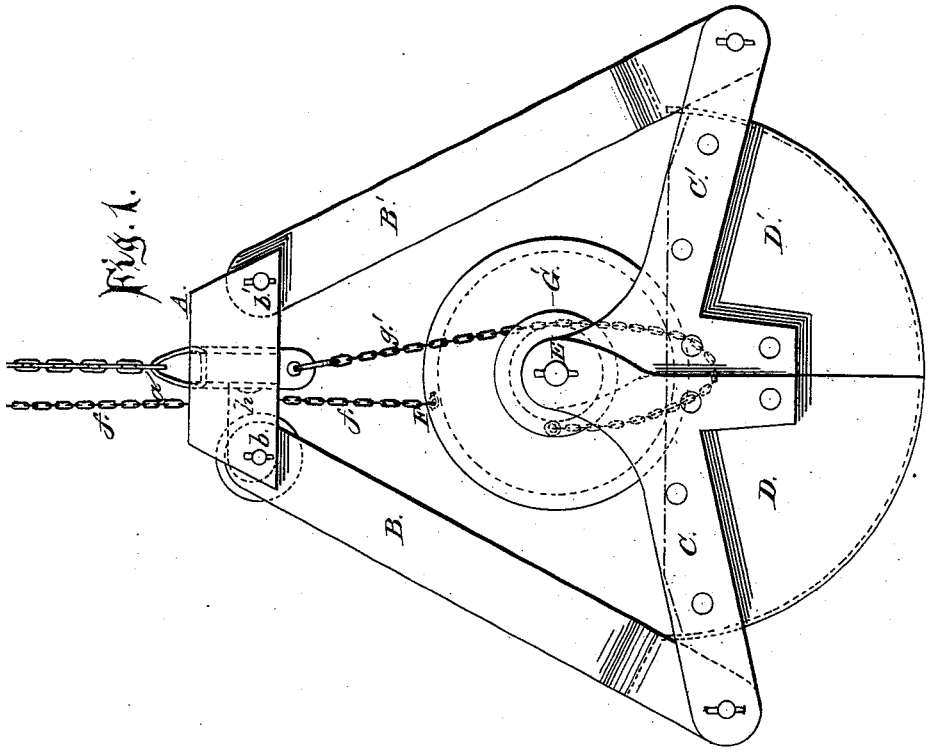
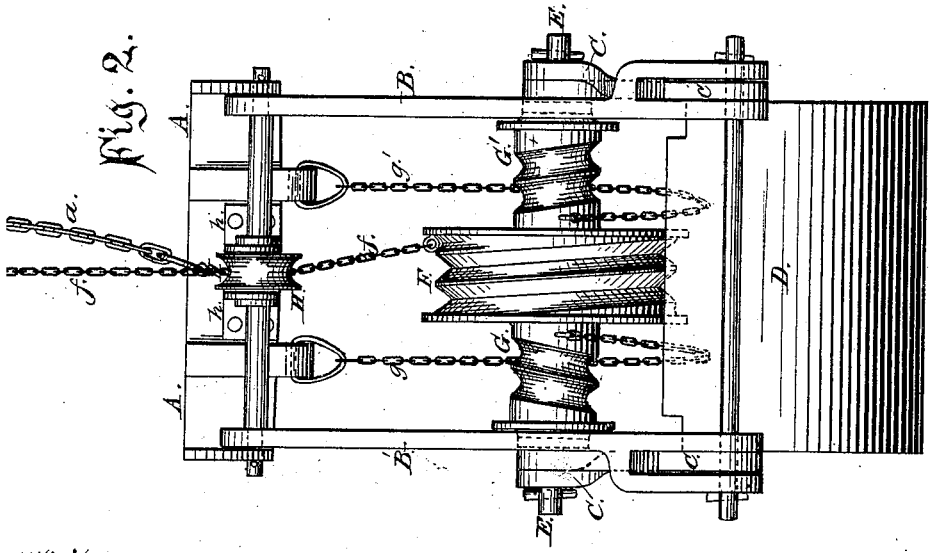


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE LORD, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN DREDGING-BUCKETS.

Specification forming part of Letters Patent No. **197,384**, dated November 20, 1877; application filed July 28, 1877.

To all whom it may concern:

Be it known that I, GEORGE LORD, of Baltimore city, in the county of Baltimore and State of Maryland, have invented certain new and useful Improvements in Dredging-Buckets; and I do hereby declare that the following is a full, clear, and exact description thereof, which 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 the letters of reference marked thereon, which form a part of this specification.

My invention relates to dredging-buckets; and the object is to produce a dredging-bucket that is more powerful, and easier manipulated than the ordinary ones now in use.

The invention consists in a new manner of attaching the levers by which the sections are operated to a hinge of peculiar shape, the central part of which forms the bearings for the sheave-shaft, and the lower outer ends the lever-connections.

It also consists in spirally-grooved operating pulleys or drums, by which a rolling motion is produced, and thereby avoiding the great amount of friction produced with the ordinary sheaves; the chains are also prevented from entangling, all of which will be more fully described in the following specification, reference being had to the accompanying drawing, and the letters of reference marked thereon.

In the accompanying drawing, Figure 1 is a side elevation of the bucket. Fig. 2 is an end elevation of the same.

In the drawing, A represents a cross-head, having the lowering and hoisting chain *a* secured to its center. To the lower outer corners of said cross-head are pivoted the levers or bars B B by shafts *b b'*, while their lower ends are attached to the outer ends of the hinges C C', which are riveted to the upper edges of the two sections D D' of the dredge-bucket shell.

The levers B are forked at their lower ends, so as to clasp the ends of the hinges. These hinges are extended beyond the sides of the bucket-sections, by which a greater leverage is obtained, and they are curved upward in the center, and form the bearings for the shaft E of the sheaves. These sheaves are grooved in a spiral manner, the center or larger one, F, as well as the two small ones, G G', one of which is grooved to the right and the other to the left. To the shaft *b* is secured a guide-pulley, H, and this is held in place by suitable brackets *h h*. The closing-chain *f*, secured to the large sheave F, passes against this pulley H, and facilitates the operation of the sheaves.

The opening-chains *g g'* are secured to the small sheaves G G', and work in the spiral grooves, which prevents them from becoming entangled, and at the same time imparts to them an easy rolling motion, and thus prevents friction, as in the ordinary ones.

Instead of bucket-sections, grapples may be attached thereto.

The operation is as follows: The dredging-bucket is lowered by the chain *a*, when it will be opened by its weight, and the jaws or sections will be extended to a greater distance than with the ordinary buckets, by means of the peculiar-shaped hinges.

By drawing upon the chain *f* the sections are closed and the bucket filled, the chains *g g'* being wound upon the small sheaves. The bucket is then raised by the chain *a*, and is emptied.

The advantages of my bucket are that it is very simple in its construction; it is not liable to get out of order; the chains are not liable to become entangled one with the other; and a far greater power can be exerted than in the ordinary buckets in use, on account of the greater leverage.

The parts may be made of any suitable material, and of any size.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a dredging-bucket, the large and small sheaves or drums F G G', provided with spiral grooves, as and for the purpose herein set forth.

2. In a dredging-bucket, the hinges C C', extended beyond the sections D D', and forming an elevated bearing for the sheaves, when constructed and arranged as and for the purpose described.

3. A dredging-bucket, consisting of the cross-

head A, levers B B′, sections D D′, hinges C C′, sheaves F G G′, and the chains *a f g g′*, all constructed and arranged substantially as shown and specified.

4. In a dredging-bucket, a hinge attached to the shell, and extended beyond the outer end of said shell, to any distance required, as and for the purpose described.

In testimony that I claim the foregoing as my own I hereby affix my signature in presence of two witnesses.

GEORGE LORD.

Witnesses:
GEORGE C. FOBES,
THOMAS MURDOCH.