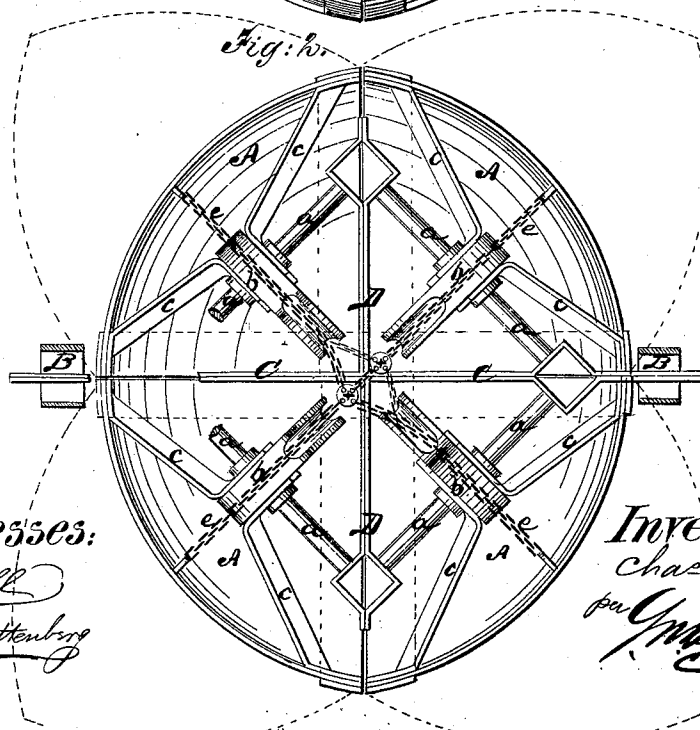
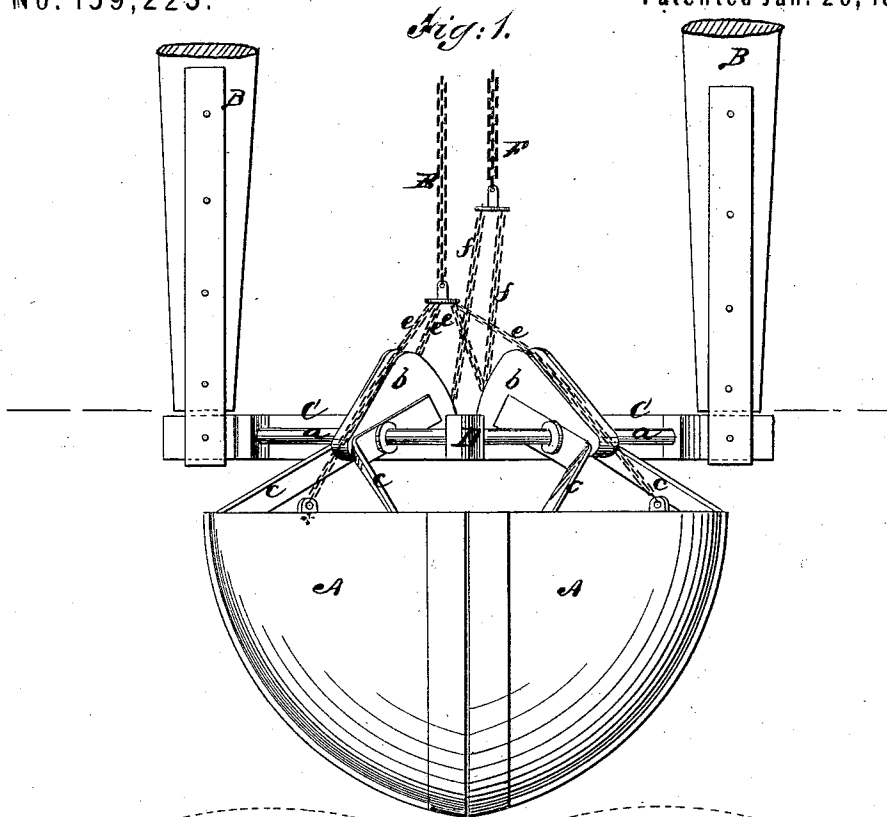


C. J. SANDS.
Dredging-Bucket.

No. 159,223.

Patented Jan. 26, 1875.



Witnesses:
M. L. Morrell
W. L. Mattenberry

Inventor:
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per *G. W. M. Smith*
att.

UNITED STATES PATENT OFFICE.

CHARLES J. SANDS, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN DREDGING-BUCKETS.

Specification forming part of Letters Patent No. 159,223, dated January 26, 1875; application filed August 11, 1874.

To all whom it may concern:

Be it known that I, CHARLES J. SANDS, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Dredging-Bucket; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

This invention is in the nature of an improvement in dredging-buckets; and the invention consists of a dredging-bucket constructed in four sections, each of said sections being supported and braced by means herein-after specifically described, and opened and closed by separate chains.

In excavating stiff clays and hard sand it is sometimes found difficult to get the bucket to enter sufficiently to scrape up the load. To insure this under almost all circumstances is the principal feature of my invention, as will be seen from the following description and accompanying drawings, wherein—

Figure 1 is an end view of my improved bucket, and Fig. 2 a plan view of same.

Similar letters of reference indicate like parts in the several figures.

A represents the sections of my bucket. These sections may be sections of a sphere, spheroid, or sections of any desirable geometrical figure. Fixed to the lower ends of the guide-poles B is a cross-bar, C, and to this cross-bar, at right angles to the same, and midway between the guide-poles, is a second cross-bar, D. Secured to and extending from one cross-bar to the other are brace-bars *a*, to which are secured blocks *b*. These blocks are curved and grooved at their ends, and are attached to the brace-bars *a* near their outer ends. Firmly fixed to the upper and inner surface of each of the sections A are tie-rods *c*. These tie-rods extend to each side of the blocks *b*, and in this way the several sections are secured to the blocks and the rest of the supporting frame-work. Secured to each of the sections A is a chain, *e*, uniting with a draw-

chain, *E*, and secured to the under side of the blocks *b* are the ends of chains *f*, which unite in a common draw-chain, *F*.

My bucket being constructed substantially as above described, its operation is as follows: The draw-chain *E* being drawn up by any suitable power, the several sections open outward, the blocks *b* turning on the brace-bars *a* for that purpose, and the sections being in this way opened, the bucket is lowered to the surface it is intended to excavate, when the draw-chain *E* is slackened and the chain *F* is drawn up, which causes the blocks *b* (which act as levers) to turn on the brace-bars *a* and draw the several sections A together simultaneously, and as they are thus drawn together their sharp lower points enter into and their angular edges cut the clay, &c., scraping it together, so that as the sections close in it is gathered up into the sections, which, when finally closed together, retain it until it is drawn upward, when the chain *F* is slackened and the draw-chain *E* drawn up, causing the sections to again open and deposit their load wherever desired.

Instead of using my bucket for the purposes of dredging, it may be used for grappling purposes, either constructed exactly as above described or with the sections made skeleton form, to grasp like forks.

I am aware that it is not new to make dredgers in four sections, and I do not desire to claim such a construction; but

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

A dredging-bucket, substantially such as herein described, constructed with cross-bars C and D, combined with brace-bars *a*, blocks *b*, and tie-rods *c*, as shown, for the purpose of sustaining the sections.

CHAS. J. SANDS.

Witnesses:

H. L. WATTENBERG,
G. M. PLYMPTON.