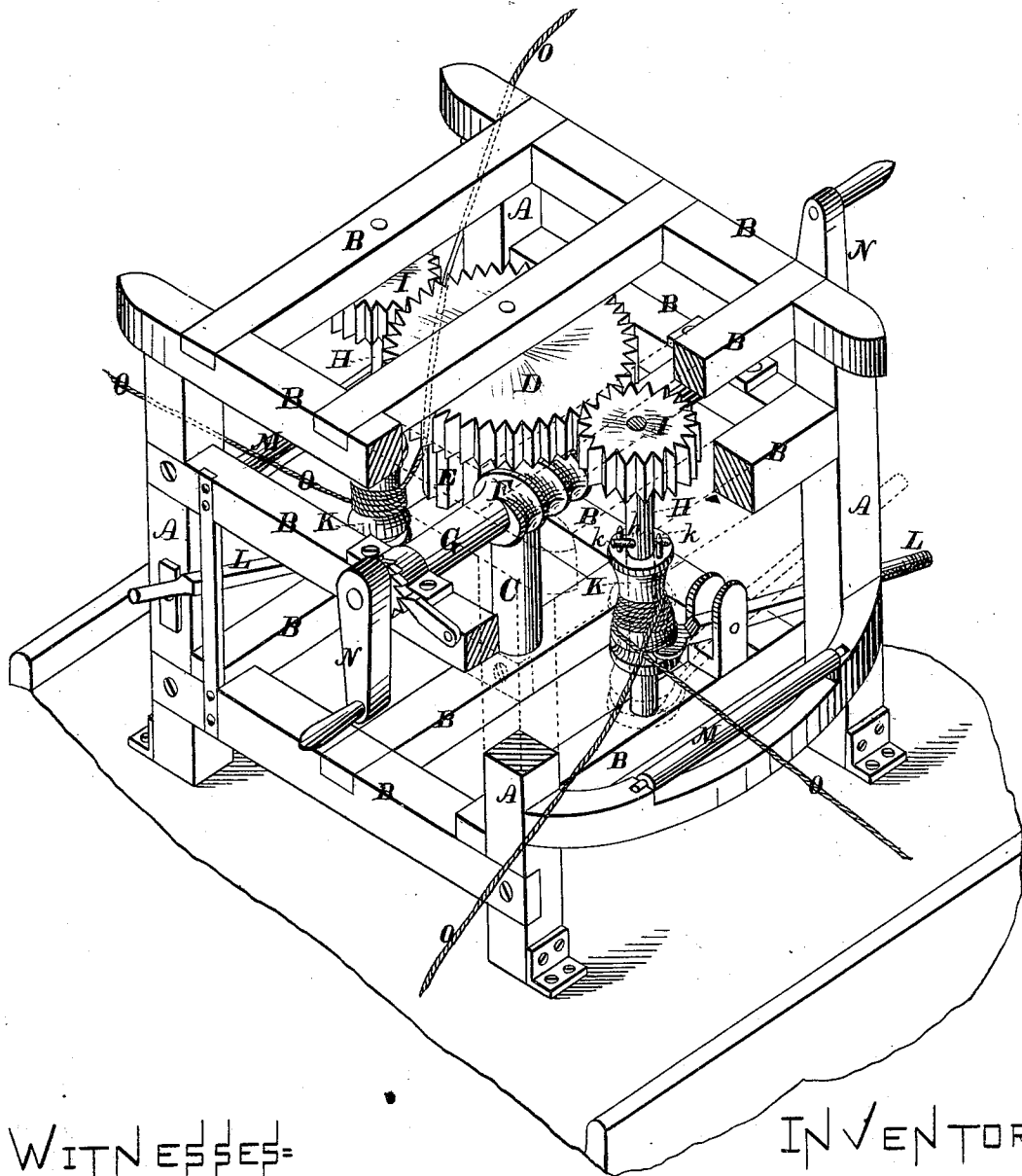


H. F. WARD.
OYSTER-DREDGING MACHINERY.

No. 178,493.

Patented June 6, 1876.



WITNESSES=

Jas. E. Hutchinson.
John R. Young

INVENTOR.

H. F. Ward, by
Grindle and Co. his attys

UNITED STATES PATENT OFFICE.

HEZEKIAH F. WARD, OF TRACY'S LANDING, MARYLAND, ASSIGNOR TO HIMSELF AND W. T. CRANDELL, OF SAME PLACE.

IMPROVEMENT IN OYSTER-DREDGING MACHINERY.

Specification forming part of Letters Patent No. **178,493**, dated June 6, 1876; application filed April 19, 1876.

To all whom it may concern:

Be it known that I, HEZEKIAH F. WARD, of Tracy's Landing, in the county of Anne Arundel, and in the State of Maryland, have invented certain new and useful Improvements in Oyster-Dredging Machinery; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, in which is shown, in perspective, my improved mechanism as arranged for use.

The design of my invention is to enable the operation of dredging for oysters to be performed with a less number of men than has heretofore been required; and to this end it consists in the peculiar construction of parts forming the mechanism by means of which the dredges are operated, substantially as and for the purpose hereinafter specified.

In the annexed drawing, A and A represent four vertical posts, which are arranged at equidistant points, and are secured together by means of a number of horizontal rails, B, B, and B, the whole forming a frame for the support of the mechanism of my device.

Journaled vertically within suitable bearings at the center of the frame is a shaft, C, which, at its upper end, is provided with a gear-wheel, D, and, immediately below the same, has secured a worm-wheel, E, which meshes with, and receives motion from, a worm, F, that is formed upon a horizontally-journaled shaft, G.

Upon opposite sides of the frame are journaled two vertical shafts, H and H, each of which is provided, at its upper end, with a pinion, I, which meshes with, and receives motion from, the gear-wheel D, while upon the body of each shaft is loosely fitted a spool, K, that is capable of both vertical and rotary motion thereon.

At the upper end of each spool K are provided two vertical studs, *k* and *k*, which, when said spool is raised sufficiently, engage with the ends of a pin, *h*, that passes radially through the shaft H, the result of such engagement being the locking together of said shaft and spool, so as to cause the latter to revolve with the former.

A lever, L, pivoted upon the frame so as to

move in a vertical plane, has its inner end in engagement with an annular groove that is formed in the periphery at the lower end of said spool, and furnishes a means whereby the latter may be raised or lowered, at will.

A friction-roller, M, journaled horizontally upon the frame, below and just outside of each spool K, and a crank, N, attached to each end of the shaft G, complete the device, the operation of which is as follows:

Each spool being thrown into engagement with its shaft, the line O from a dredge is passed around the former a sufficient number of times to afford the necessary hold, and the shaft G is then turned, so as to revolve said spools and draw inward upon the lines.

In consequence of the peculiar combination of gearing, two men operating the cranks are enabled to perform, with ease, labor which would require the strength of a number of men were the usual mechanism employed; and a vessel is thus enabled to be loaded without the aid of any except those required to manage the dredges, while heretofore it has been found necessary to carry from two to four extra men to assist in hauling the dredges.

To release the lines and permit the same to run out as the dredges are lowered, it is only necessary to release the spools from engagement with their shafts by raising the outer ends of their levers.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

As an improvement in mechanism for dredging oysters, the shafts C, G, H, and H, gear-wheel D, worm-wheel E, worm F, pinions I and I, spools K and K, provided with the studs *k* and *k*, that engage with the pins *h* and *h*, levers L and L, rollers M and M, and cranks N and N, combined with each other, and with the supporting-frame, in the manner and for the purpose substantially as specified.

In testimony that I claim the foregoing I have hereunto set my hand this 6th day of April, 1876.

HEZEKIAH F. WARD.

Witnesses:

GEO. S. PRINDLE,
J. W. PILLING.