(No Model.) 2 Sheets—Sheet 1.

M. NIELSEN.

OYSTER DREDGE.

No. 546,181. Patented Sept. 10, 1895.

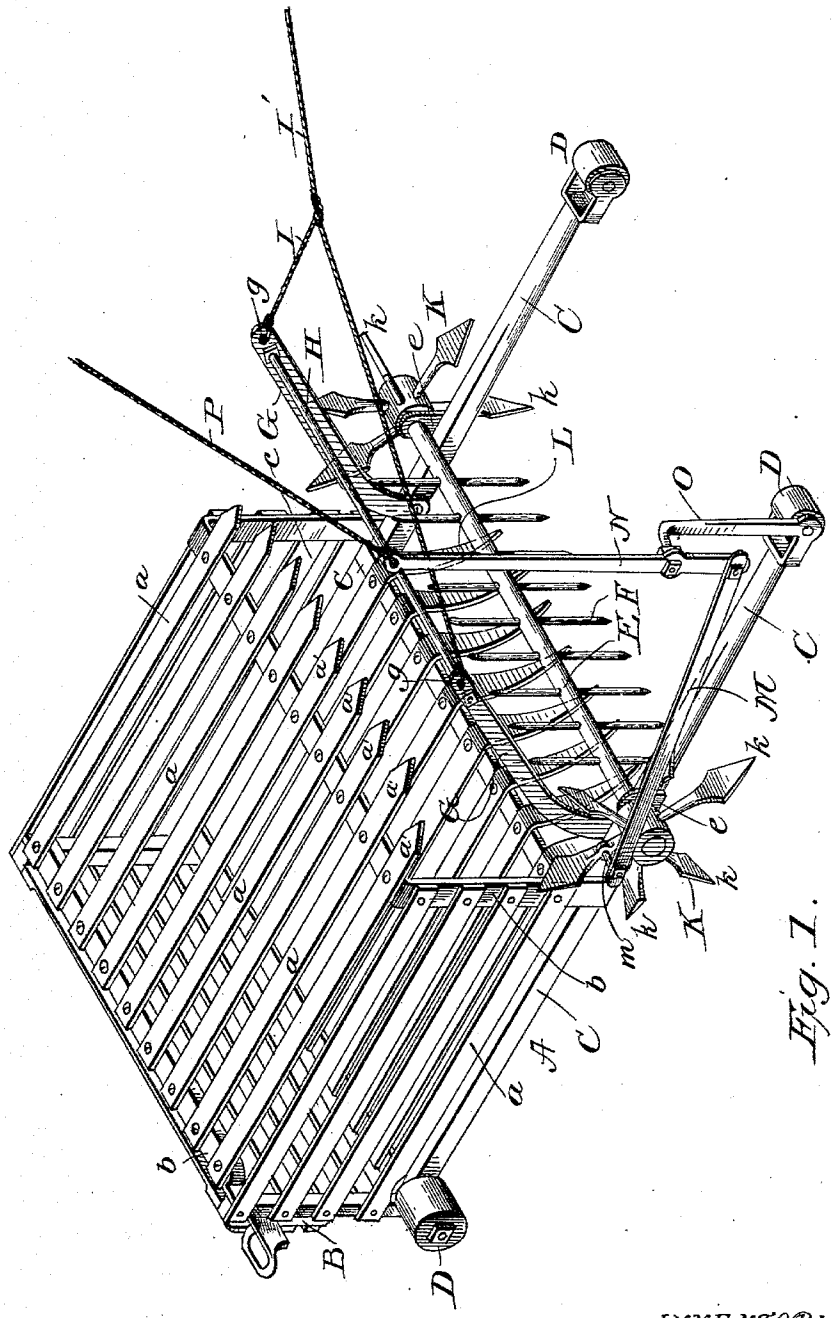

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

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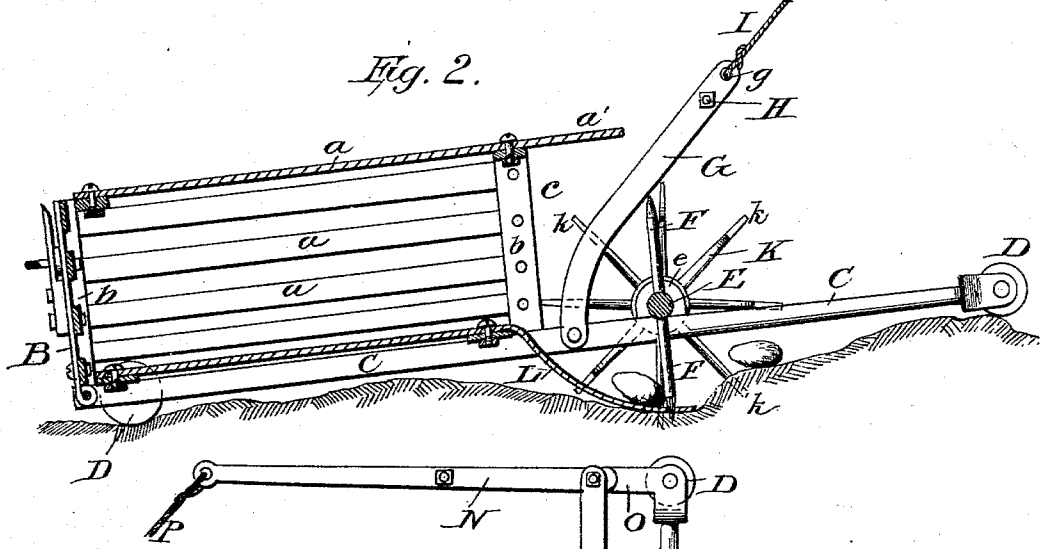
Fig. 2.



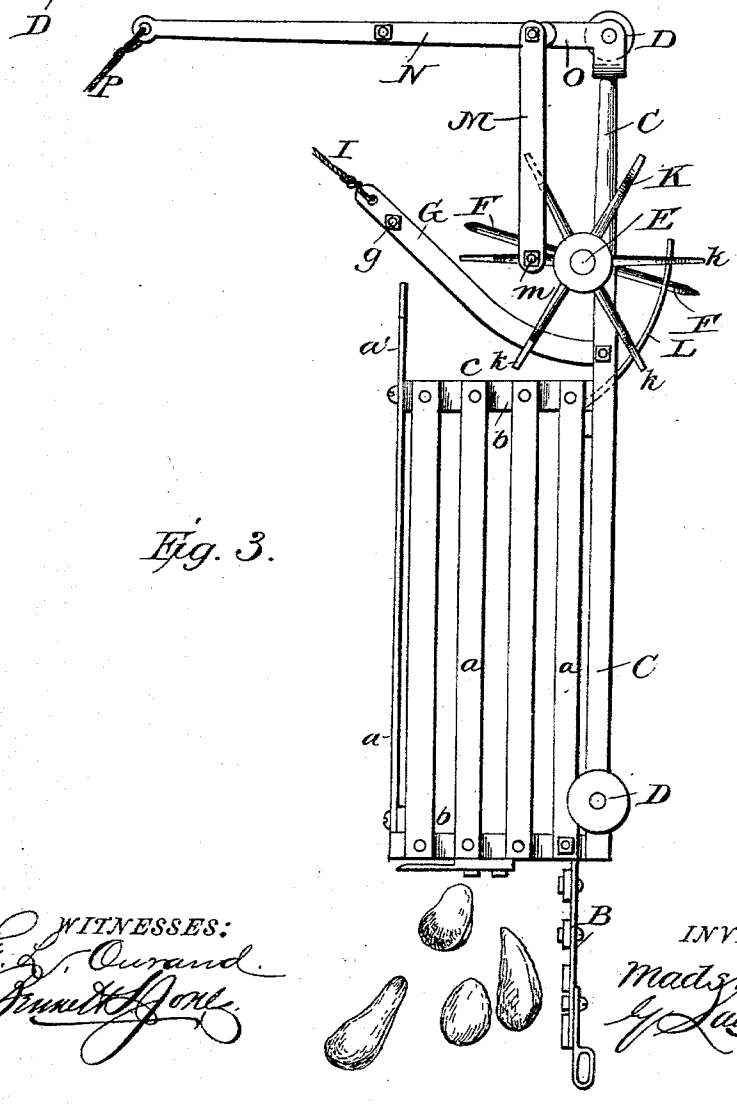


Fig. 3.

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UNITED STATES PATENT OFFICE.

MADS NIELSEN, OF NEW YORK, N. Y.

OYSTER-DREDGE.

SPECIFICATION forming part of Letters Patent No. 546,181, dated September 10, 1895.

Application filed June 3, 1895. Serial No. 551,471. (No model.)

To all whom it may concern:

Be it known that I, MADS NIELSEN, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Machines for Dredging Oysters, &c; and I do hereby declare that the following is a full, clear, and exact description of the invention, 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, which form a part of this specification, in which—

Figure 1 is a perspective view of my improved dredging-machine. Fig. 2 is a longitudinal sectional view on a vertical plane through the middle of the machine, and Fig. 3 shows the machine in position for emptying the catch on the deck of the boat or vessel by which the machine is worked.

Like letters of reference designate corresponding parts in all the figures.

My invention relates to devices for dredging oysters, clams, &c.; and it consists in the improved construction and combination of parts of a machine of that description, as will be hereinafter more fully described and claimed.

On the accompanying drawings the reference-letter A denotes the basket or receptacle for receiving the catch, which preferably is made of iron slats *a a*, of suitable size, bolted upon frames *b b*, so as to form a basket-like rectangular receptacle, having a hinged bottom B, provided with suitable catches or fastenings for keeping it closed. The iron slats or bars forming the top of the receptacle project some distance beyond the sides and bottom and are pointed to form a row of parallel teeth or pickets *a' a'* on the top of the machine.

The open-work receptacle A is mounted upon two stout and strong parallel side bars C C, which project a considerable distance in front of the open mouth *c* of the receptacle and are provided with small wheels or rollers D D, which, when the machine is in operation, as illustrated in Fig. 2, run upon the bottom of the sea. Upon the forwardly-projecting arms of these side bars C C, opposite to each other, are bearings or boxes *e e*, in which is journaled a revoluble shaft E, provided with two rows of teeth F F, projecting in opposite directions from the shaft. Between this shaft and the open mouth of the receptacle A, bolted firmly to the side bars C C, are two upwardly and forwardly projecting arms G G, connected on top by a brace or cross-piece H, and having eyes *g g* in their free ends for the attachment of a strong rope or chain I, to which is fastened another long rope or chain I' for pulling the machine along the bottom of the sea and hoisting it to the surface when the receptacle A is full.

The laterally-projecting ends of the shaft E are provided with radial arms K K, forming "star" wheels of the shape shown in Fig. 1, the arms of which have flattened but pointed ends *k k*, which will easily penetrate into the mud and sand forming the sea-bottom, being forced down into this by the weight of the machine. To the forward open end *c* of the receptacle A, and on the under side of this, is secured a row of downwardly-projecting curved teeth L, each tooth being made separately and fastened, independent of the others, to the forward end of the under side of the machine, so that if any one of the teeth L should break it can easily be removed and a new and perfect one substituted.

On one of the revolving star-wheels K K one of the arms is provided with a laterally-projecting wrist-pin *m*, to the outer end of which is pivoted a connecting-rod M, the other end of which is articulated to the lower end of an oscillating arm N, which is fulcrumed upon the upper end of a post O, securely bolted to the forward end of the side piece C on that side of the machine. To the upper end of this oscillating arm N is fastened a cord or wire P, which extends up to the surface, where it is carried aboard of the dredger-boat and fastened loosely; or it may be held in the hands of one of the men during the operation of dredging.

From the foregoing description, taken in connection with the drawings, the operation of this machine will readily be understood. As it is being pulled rapidly along the sea-bottom by the boat above by means of the hauling-ropes I and I', with the teeth L projecting down into the soft bottom and the revolving arms K K rotating the toothed shaft E above the stationary teeth L, the latter will dig out

and pick up the shell-fish, crabs, &c., lodged in or upon the bottom, while as the toothed shaft revolves its teeth F F, passing between the stationary curved teeth L L, will clear the spaces between these and throw the catch into the adjacent open end or mouth *c* of the receptacle A. If for any reason the shaft E should cease to revolve—as when, for example, the star-wheels K K should meet an obstruction or the spaces between the teeth L L become choked up, so as to prevent the toothed shaft E from turning—the oscillating arm N will cease its motions and remain stationary, when it follows that the indicator cord or wire P will also remain at rest, instead of being pulled upon intermittently by arm N, thus instantly giving notice to the people in the boat above that the receptacle is full, or that something is the matter, so that in either case the machine may be pulled up. In pulling it up it will assume a vertical position, as indicated in Fig. 3, and in this position it is swung, by means of a derrick or small jib-crane, in over the deck of the boat, after which the bottom door B is opened, allowing the contents to drop out upon the deck of the vessel, where the catch is culled and assorted, as usual, throwing the small oysters and trash overboard and assorting the remainder according to size into the several marketable grades.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a machine for dredging-shell fish, the combination of the openwork receptacle A provided with the hinged door B and side-bars C C having rollers D D; the row of teeth L L fastened removably and separately to the front end of the receptacle on the under side; and the revolving-shaft E provided with rows of teeth F F intersecting and alternating with the stationary teeth L L, and having at opposite ends the "star" wheels K K; substantially as and for the purpose set forth.

2. In a machine for dredging shell-fish, of the type described, the combination with the receptacle A having stationary teeth L L, and revolving shaft E having teeth F F and provided with the "star" wheels K K, arranged as described, of the oscillating indicator arm N having a cord or wire attached to its free end, and connecting rod M, connecting the lower end of said arm to one of the arms of one of the "star" wheels; substantially as and for the purpose herein shown and described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

MADS NIELSEN.

Witnesses:

HANS HERMANSEN,

LAURITS SOUDERGAARD.