

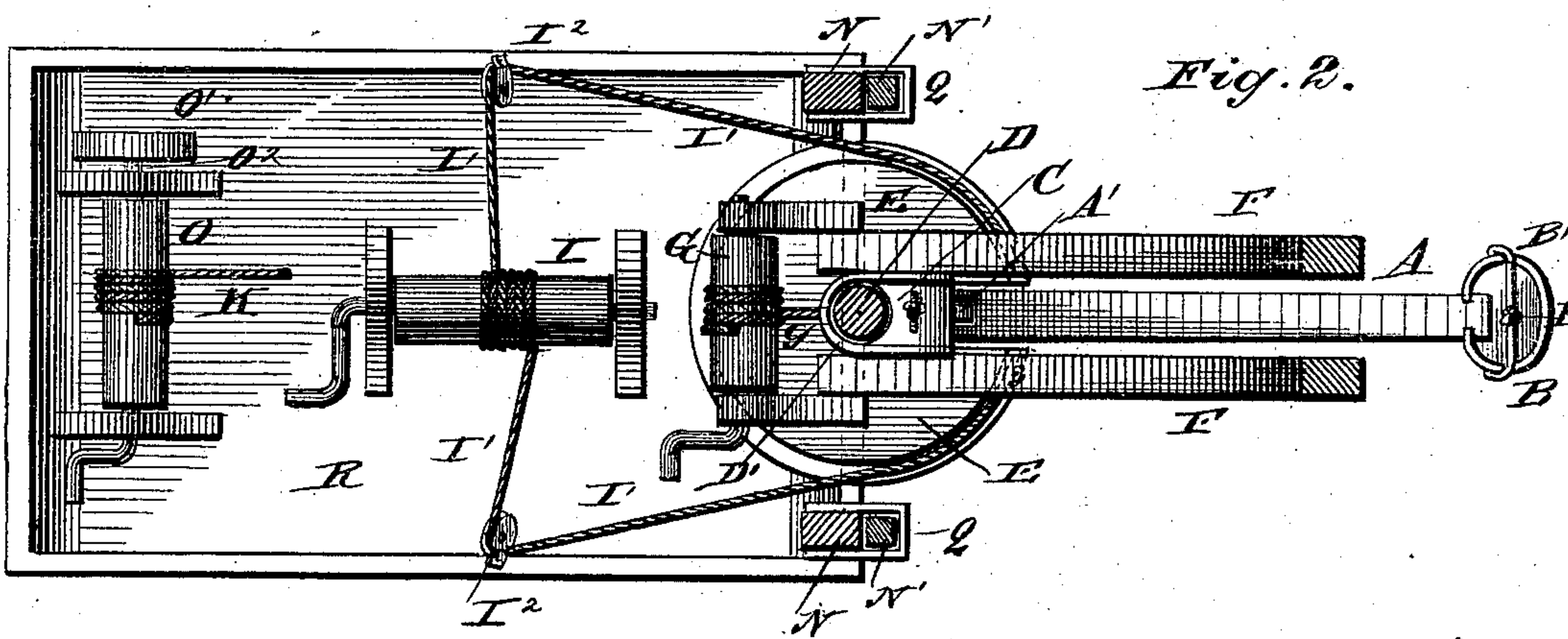
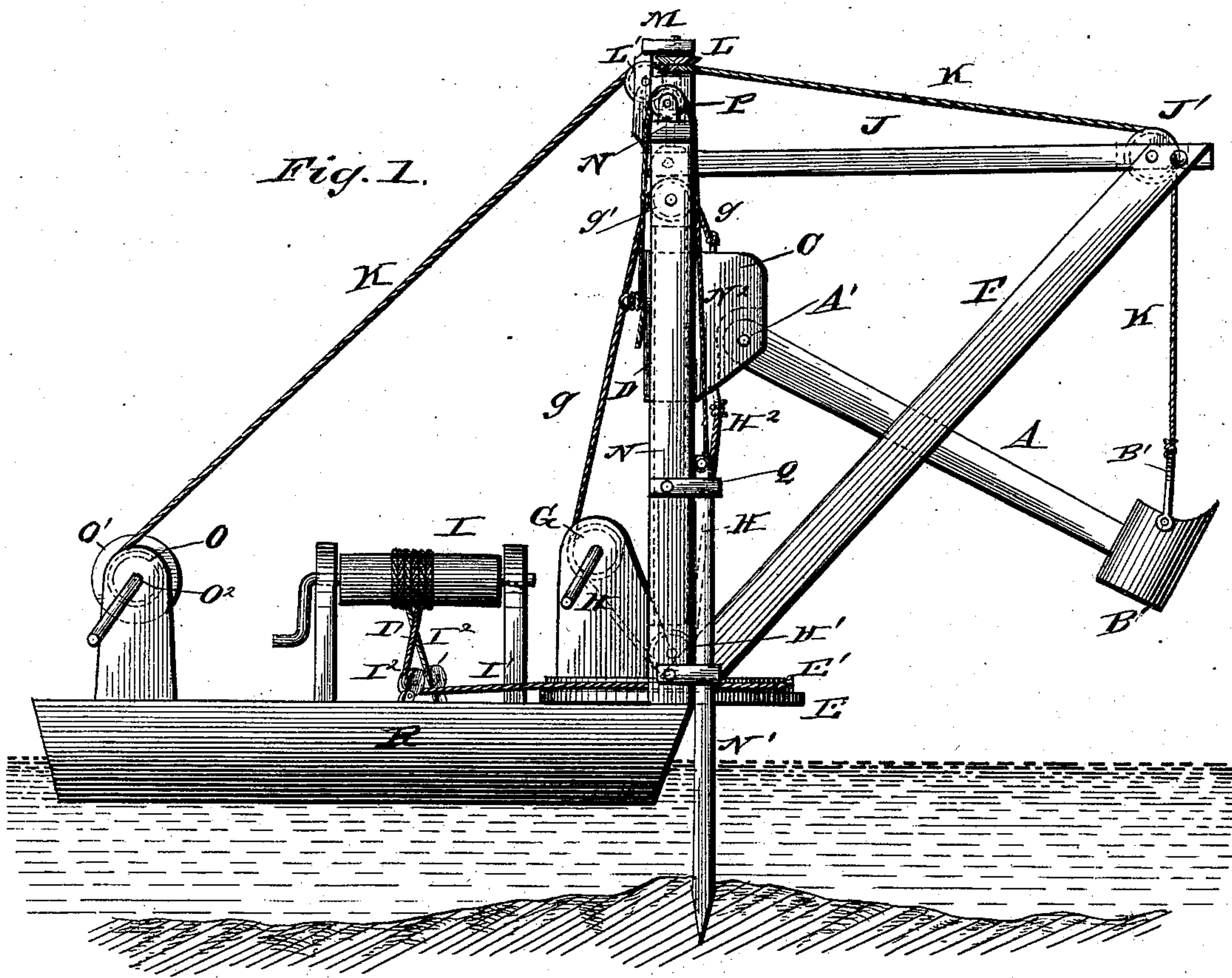
(No Model.)

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H. C. CARTER.
DREDGING MACHINE.

No. 292,732.

Patented Jan. 29, 1884.



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A. E. Howell

INVENTOR

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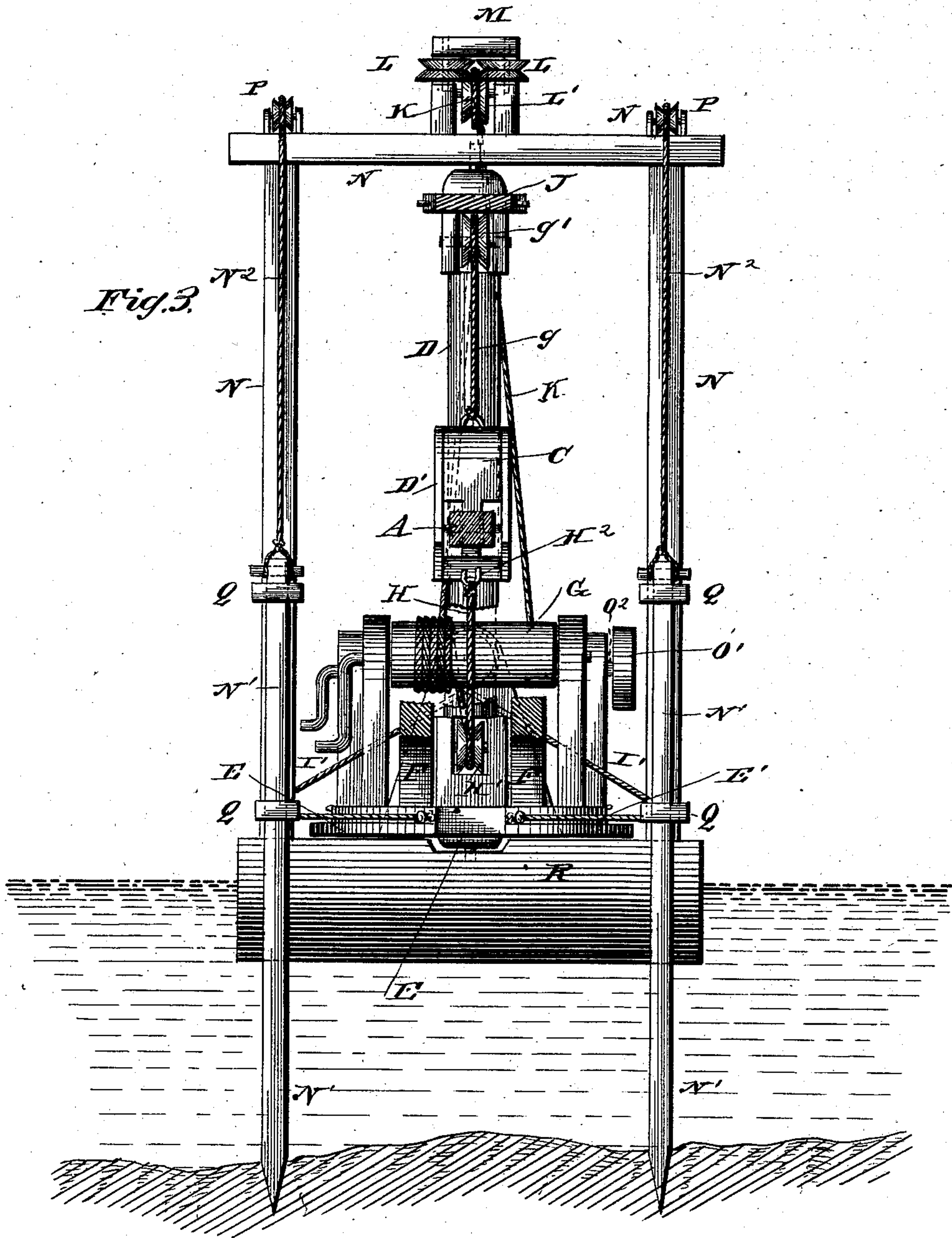
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UNITED STATES PATENT OFFICE.

HENRY CLAY CARTER, OF FAIRFIELD, NORTH CAROLINA.

DREDGING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 292,732, dated January 29, 1884.

Application filed December 14, 1883. (No model.)

To all whom it may concern:

Be it known that I, HENRY CLAY CARTER, a citizen of the United States, residing at Fairfield, in the county of Hyde and State of North Carolina, have invented certain new and useful Improvements in Dredging-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a dredging-machine; and it consists in the parts which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of my improvement mounted on a boat. Fig. 2 is a plan view, and Fig. 3 is front elevation of the device with the dipper-handle in section.

In the accompanying drawings like letters indicate like parts throughout the several views.

A represents the dipper handle, and B the dipper.

A' is the rear end of the dipper-handle, pivoted in the sliding block C. Said block is vertically adjustable on the mast D. The top of said mast is pivoted in the under side of the horizontal over-piece N.

E is a turn-table on which the mast D is fixed. The mast D passes through the center of the table E, and is pivotally mounted on the bottom of the boat.

F F are two inclined arms, fixed to the top of the table E. These arms serve as guides for the dipper-handle in its movements.

G is a windlass fixed on the top of the table E.

g is a chain fixed to the windlass G, and it passes over the pulley g', mounted on the mast D. The forward end of the chain g is secured to the top of the sliding block C, whereby said block and dipper-handle A may be vertically elevated on the mast D. The strap D' passes around the mast D and is fixed to the block C, thus encircling the mast D and securing the block C thereto. Said block and its guide, however, may be raised and lowered on the mast.

H is a chain secured to the windlass G, pass-

ing under the pulley H', and then passing upward to the under side of the block C, where it is secured, at H², to said block. It will thus be seen that the windlass G is provided with two chains, one passing up over the top pulley, g', and secured to top of the block C, while the other passes under the lower pulley, H', and then passes up, where it is secured, at H², to the block C. This lower chain on the windlass enables the operator to force down the dipper when its handle is in a vertical position to the desired depth.

I is a windlass mounted near the center of the boat, and provided on either side with a chain, I'. These chains I' pass under pulley I², fixed to the sides of the boat. These chains then pass forward and fit in the grooves E' in the periphery of the table E. The chains I' are secured to the forward end of the table. By turning the windlass I, the table, mast D, guide-arms F, dipper-handle, the block, and the horizontal beam J are turned to suit the convenience of the operator. J' is a grooved pulley at the intersection of the guides F and beam J, over which the dipper-chain K passes. The chain K passes around the pulley J' on top and the dipper B. Said chain passes over grooved pulleys L L, horizontally mounted at L'. The pulleys L and L' are mounted in a frame-work, M, on top of the main frame-work N. In the lateral movement of the table and its connected parts, the chain K is in frictional contact with the grooved pulleys L L. The chain passes downward and rearward from the pulley L' substantially in a diagonal manner to the windlass O, fixed in the stern of the boat. On one side of this windlass the shaft O² is provided with a pulley, O', by means of which any suitable power may be applied to the chain K, whereby the dipper and its handle may be raised and lowered, all of which will be more fully hereinafter specified. Any suitable pawl and ratchet may be employed in connection with the windlass O, for securing it in any desired fixed position. The vertical frame-pieces N are provided with spud-posts N'. These spud-posts are adapted to be raised and lowered by means of the chains N². The chains N² pass over sheaves P, which are fixed on top of the horizontal frame-piece N. The loose end of the chains

N² may be secured in any suitable manner to the frame.

Q Q are guide-strips on the frame in which the spuds N' move. By means of these spuds the boat and dredge may be secured and anchored in any desired position.

The letter R represents the boat. The lower end of the spuds N' are tapering or sharpened, whereby they are adapted to be easily inserted or withdrawn from the bottom of the stream where the dredge is worked.

The windlass I may be provided with a suitable pawl and ratchet, whereby it may be secured and fixed in any desired position. This may be said of the other windlasses.

I do not wish to confine myself to any particular form of construction for securing the windlasses, as it is obvious that there are various means of securing them in fixed positions without departing from the spirit of my invention.

The operation of my invention is as follows: The dipper and arm are elevated by winding the chain K on the windlass O, and lowered by unwinding. The rear end of the dipper-handle A is elevated by means of the table-windlass G. When the handle A is in a vertical position and the chain g unwound from the windlass G, the dipper and its arm will gravitate to the bottom.

In order to insert the dipper firmly into the mud or material to be excavated, the windlass g may be turned forward, whereby the under chain, H, draws down on the under side of the block C and forces said dipper to any desired depth in the mud. While the dipper is being inserted into the mud by drawing down on the block C, the chain K should be wound on the windlass O, whereby a downward and outward movement is simultaneously imparted to the dipper B, thereby insuring the filling of said dipper—that is to say, by the operation of the parts the dipper is caused to describe an arc in its downward and outward movement. When the dipper has been elevated to the desired height, the windlasses O and G may be secured to prevent the movement of the chains K and g. Then by operating the middle windlass, I, the dipper is turned either to the right or the left, as may be desired, and the dipper and its contents brought immediately over a receiving boat or other receptacle.

If the material excavated should require, another form of dipper may be used in connection with my invention.

It is obvious that my dredge with the mechanism shown may be used for dry-ditching or for dredging beneath water.

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

1. In a dredging-machine, the mast D, in combination with the sliding block C, and the dipper-handle A, pivoted to said block, said block being secured to the mast by means of the strip D', whereby said block and strip and the rear end of the dipper-handle may be raised and lowered, substantially as described, and for the purposes set forth.

2. In a dredging-machine, the mast D, provided with top and bottom pulleys, g' and H', in combination with the windlass G, chains g and H, and the block C, having the guide-strip D', whereby said block may be elevated and lowered to suit the convenience of the operator, substantially as described, and for the purposes specified.

3. The mast D, mounted on the rotary table E, said mast being provided with the top pulley, g', and bottom pulley, H', in combination with the windlass G, having chains g and H, the block C, and guide-strip D', said block having the rear end of the dipper-handle A pivoted therein, substantially as described, and for the purposes specified.

4. In a dredging-machine, the rotary table E, provided with the circumferential groove E', mast D, and windlass G, said mast being provided with top and bottom pulleys, the chains g and H, secured to the windlass G, and the sliding block C, in combination with the windlass I and chain I', said chain being secured to the table E, whereby said table and its mast and the block may be rotated, substantially as described, and for the purposes set forth.

5. In a dredging-machine, the mast and windlass G, said mast having top and bottom pulleys, as specified, and the chains g and H, the block C, and guide-strip D', in combination with the dipper B, handle A, pivoted in the block C, and the chain K, suitably secured to the dipper, said chain passing over suitable pulleys and the windlass O, substantially as described and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY CLAY CARTER.

Witnesses:

SAML. C. MILLS,
GEO. W. BEEN.