

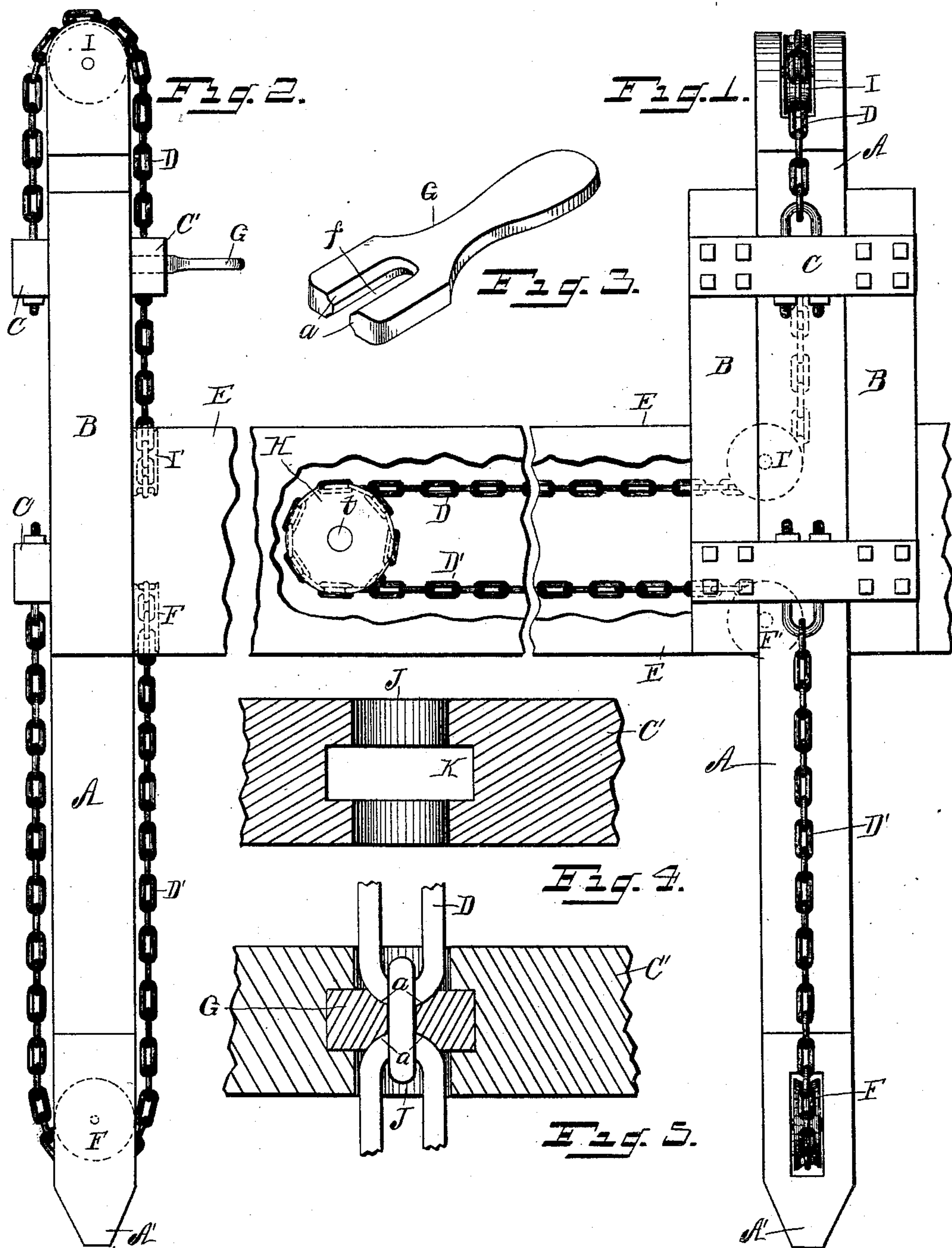
(No Model.)

W. S. CARKIN.

SPUD ACTUATING DEVICE FOR DREDGING MACHINES.

No. 428,163.

Patented May 20, 1890.



WITNESSES

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SPUD-ACTUATING DEVICE FOR DREDGING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 428,163, dated May 20, 1890.

Application filed February 10, 1890. Serial No. 339,919. (No model.)

To all whom it may concern:

Be it known that I, WILLARD S. CARKIN, a citizen of the United States, residing at East Saginaw, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Spud-Actuating Devices for Dredging-Machines; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to a certain arrangement of mechanism for actuating and fixing the anchoring-spud of a dredging-machine, in which said spud travels between vertical guides secured to the hull of the dredging-machine and is actuated by chains secured to cross-heads bolted to the vertical guides, said chains passing over sheaves in each end of the spud and around a revolving drum, whereby said spud is adapted to be moved up or down, and a grip or key is employed to lock said chain to permanently fix the spud when set, the object being to provide simple and effective means for setting and locking the spud of a floating dredge, so as to securely anchor said dredge when in operation. This object is attained by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of a portion of a floating hull and the spud confined between the vertical guides secured thereto, the side of said hull being broken away, showing the chains passing around the revolving drum, by means of which the spud is actuated. Fig. 2 is a side elevation of Fig. 1, taken at right angles thereto. Fig. 3 is an isometrical view of the key for locking the chain and fixing the spud. Fig. 4 is a central vertical section through a cross-head through which the spud-chain passes, showing the port therein that receives the key for locking said chain. Fig. 5 is a view of Fig. 4, showing the spud-chain passing through the cross-head and the key engaging the chain to lock the anchoring-spud.

Referring to the letters of reference, A indicates the spud; B B, the guideways between which the spud slides up and down in its op-

eration; C C, the cross-heads bolted to the guideways B, and which confine the spud between said guides; D and D', the chains by which the spud is actuated; E, a floating hull carrying the dredging-machine, and to which the guideways B are secured, and G the key adapted to lock the spud-chains.

The floating hull E, on which is located the dredging-machine and operating engine, is not shown in full, as such construction is so well understood it is thought to be unnecessary to illustrate it. The vertical guides B B, which are composed of heavy timbers, are bolted to the side of the hull E, and at such distance apart as to freely receive the spud A between their adjacent faces. The cross-heads C C are bolted to the outer face of the guides B near their ends and confine the spud A between said guides. (See Fig. 1.) The chain D is attached to the upper cross-head C and passes over the sheave I in the upper end of the spud and over the sheave I', (shown by dotted lines,) whereby said chain is guided onto the upper face of the drum H, around which it is wound. The chain D' is attached to the lower cross-head C and passes over the sheave F in the lower end of the spud A and over the sheave F' (shown by dotted lines) to the under face of the drum h, and is wound thereon, as clearly shown in Fig. 1. The drum H is mounted on the shaft t, and is adapted to be revolved in either direction by the operating-engine of the dredging-machine. (Not shown.)

To the back face of the guideways B is secured the cross-head C', as shown in Fig. 2, said cross-head having the vertical hole J, through which the chain D passes, and having also the port K, opening through the side of the cross-head and at right angles to the hole J and communicating therewith, as clearly shown in Fig. 4.

The key G is provided with the slot f, opening from the end thereof, the edges of said key forming the slot being beveled from the faces of the key, as shown at a in Fig. 3. Said key is adapted to enter the port K and receive one link of the chain edgewise in the slot f, the adjacent ends of the other links fitting into the beveled edges a of said key, thus securely locking said chain from being moved up or down, as clearly shown in Fig. 5.

It will now be apparent that by the arrange-

ment of parts described and shown in Fig. 1 a revolution of the drum II in either direction one of the spud-chains will wind onto the drum as the other unwinds therefrom, thus enabling the spud to be raised or lowered, as desired, by revolving said drum.

To set the spud for the purposes of anchoring the dredging-machine, the drum H is revolved, so as to wind the chain D thereon, which chain, passing over the sheaves I and I', carries the spud A downward, the chain D' running off of the drum as the spud descends, whereby the point A' of the spud is forced into the earth sufficiently to securely anchor the dredge in the desired position. To fix or lock the spud after being set, the key G is inserted in the port K of the cross-head C', through which the chain D passes. Said key engages the links of the chain D, as before described, and shown in Fig. 5, whereby said chain is locked and the spud securely fixed in place. To raise the spud, the key G is withdrawn from the port K, releasing the chain D, when the drum is revolved, so as to unwind the chain D and to wind the chain D' thereon, whereby the spud is raised, as will be readily understood. Then by placing the key back into the port K, astride the chain-link, the spud A will be locked in its elevated position.

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

1. In combination with the hull of a dredging-machine, an anchoring-spud slidingly at-

tached to a supporting-frame thereon, chains to raise and lower said spud, one of the chains passing through a port in the spud-supporting frame, the port K, and forked key adapted to be inserted therein and to engage with a link of the chain, substantially in the manner and for the purposes specified.

2. In a dredging-machine, the combination of the vertically-reciprocating spud, the guideways and cross-heads supporting the spud, the drum, the chains leading therefrom to and over the end portions of the spud, being attached to the cross-heads C, the cross-head C', having the ports J K therein, the chain passing through the former port, and the forked key adapted to be inserted into the latter port, and for the purposes specified.

3. In combination with the hull of a dredging-machine, the guideways, the cross-heads mounted thereon, the spud carrying a sheave near each end thereof, the drum, the chains leading therefrom over the sheaves of the spud and over the intermediate sheaves, their ends being secured to the cross-heads C, the cross-head C', having the port K, and the forked grip adapted to be inserted into said port and to embrace the chain, for the purposes specified.

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

WILLARD S. CARKIN.

Witnesses:

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