(No Model.)

G. W. KING.

DREDGING OR EXCAVATING MACHINE.

No. 540,745. Patented June 11, 1895.

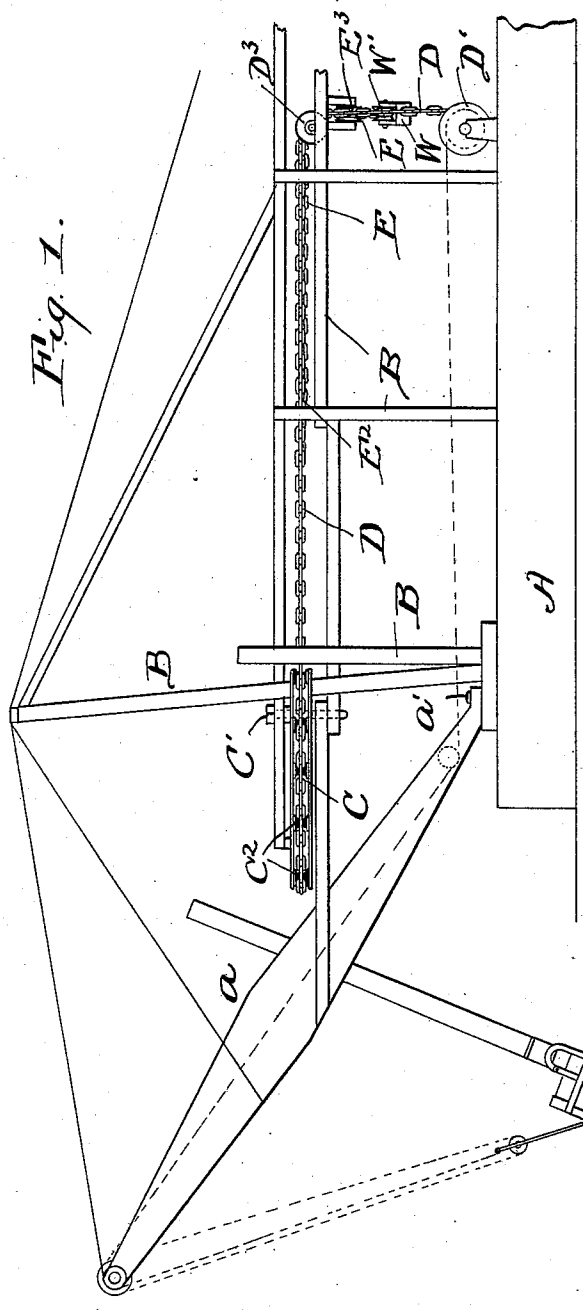

Fig. 1.

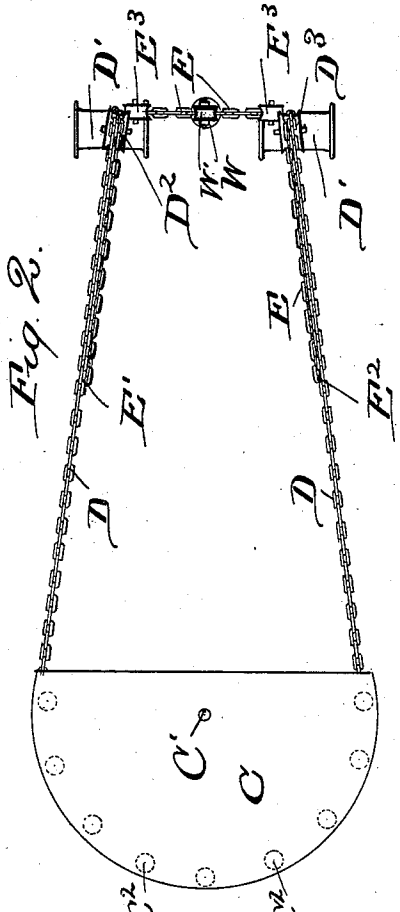

Fig. 2.

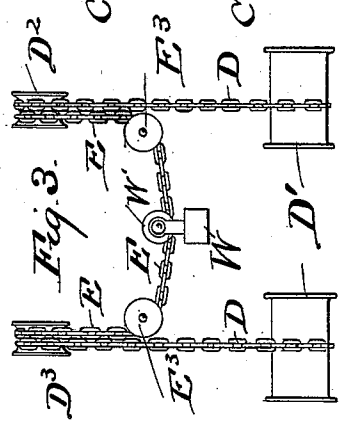

Fig. 3.

Witnesses:
E. B. Gilchrist
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By M. D. Leggett
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UNITED STATES PATENT OFFICE.

GEORGE W. KING, OF MARION, OHIO.

DREDGING OR EXCAVATING MACHINE.

SPECIFICATION forming part of Letters Patent No. 540,745, dated June 11, 1895.

Application filed May 15, 1894. Serial No. 511,330. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. KING, of Marion, in the county of Marion and State of Ohio, have invented certain new and useful Improvements in Dredging or Excavating 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 pertains to make and use the same.

My invention relates to improvements in dredging or excavating machines and more especially to the means hereinafter described of taking up the slack in the swinging-chain or cable employed to swing or move the boom laterally.

In the accompanying drawings, Figure 1 is a side elevation of a portion of a dredging or excavating machine provided with my improved means for taking up the slack in the swinging chain or cable. Fig. 2 is a plan of so much of the machine as it is considered necessary to show in order to illustrate my invention; and Fig. 3 is a right-hand side elevation relative to Fig. 2 of the weighted tightening-chain, &c.

Referring to the drawings, A designates the hull or body-portion of a dredge-boat or machine, and *a* the laterally swinging or movable boom that is pivoted or fulcrumed to the body-portion of the machine, as at *a'*.

B represents the upright frame-work of the machine that is provided at any suitable elevation with a horizontally-arranged semi-circular or approximately semi-circular swinging-platform or frame C pivotally secured to the supporting-frame-work, as at C', and suitably connected with the boom.

Platform or frame C, at intervals along its edge, is provided with sheaves or pulleys C^2 over which leads the swinging-chain or cable D, whose opposite ends are attached, respectively, to different winding-drums D' D', the chain or cable leading from the one drum upwardly to and over guide-sheave or pulley, D^2, thence to and over the aforesaid sheave-bearing-frame, and thence to and over guide-sheave or pulley D^3 located a suitable distance above the other winding-drum, and thence to the latter, the arrangement of parts being such that the swinging-chain or cable shall be paid out by the one drum while it is wound upon the other, and so that the boom shall be swung or moved laterally in the one direction or the other according as the swinging-chain or cable is wound upon the one winding-drum or the other.

E designates a continuous tightening chain or cable, the one end whereof is attached, as at E', to the section of the swinging-chain or cable that leads from the one side of sheave-bearing-frame C, and the other end of said chain or cable is attached, as at E^2, to the section of the swinging-chain or cable that leads from the other side of said frame, the ends of said tightening-chain or cable being attached to the swinging-chain or cable at any suitable points between the aforesaid frame and guide-sheaves or pulleys D^2 D^3.

Tightening-chain or pulley E leads from its one point of attachment to the swinging-chain or cable, (point E' for instance) along the swinging-chain or cable to and over guide-sheave or pulley D^2; thence over guide-sheaves or pulleys E^3 to and over guide-sheave or pulley D^3; and thence along the swinging-chain or cable to its other point of attachment E^2. A weight W is suspended from the tightening-chain or cable at any suitable point between guide-sheaves D^2-D^3, said weight being preferably suspended from a sheave or pulley W' engaging or mounted upon the tightening-chain or cable, the object of the weight being to take up the slack in the tightening-chain or cable and thereby hold the latter properly stretched, resulting in the stretching of the portions of the swinging-chain or cable that engages the boom-swinging-frame C, and the friction had between the tightening-chain or cable and the swinging-chain or cable will hold taut that portion of the swinging-chain or cable between points E' E^2 and sheaves E^3 E^3.

What I claim is—

In a dredging or excavating-machine, the combination with the boom, winding-drums D' D', guide-sheaves or pulleys D^2 D^3, boom-engaging sheave-bearing-frame C, and swinging-chain or cable leading over the sheaves of the sheave-bearing-frame and over the aforesaid guide-sheaves or pulleys and operatively connected with the winding-drums, of the tightening-chain or cable attached to the swinging-chain or cable at E' E^2, weighted

sheave or pulley W′, guide-sheaves or pulleys E^3 E^3 at any suitable point between said weighted sheave or pulley and the aforesaid sheaves or pulleys D^2 D^3, and the tightening-chain or cable leading over guide-sheaves or pulleys D^2 D^3 E^3 E^3 and under the weighted sheave or pulley and frictionally engaging the swinging-chain or cable at the guide-sheaves or pulleys over which both of said chains or cables pass, and between said sheaves or pulleys and the points at which the tightening-chain or cable is attached to the swinging-chain or cable, all substantially as shown, for the purpose specified.

In testimony whereof I sign this specification, in the presence of two witnesses, this 16th day of December, 1893.

GEORGE W. KING.

Witnesses:
JOHN F. MCNEAL,
ALFRED F. MCNEAL.