

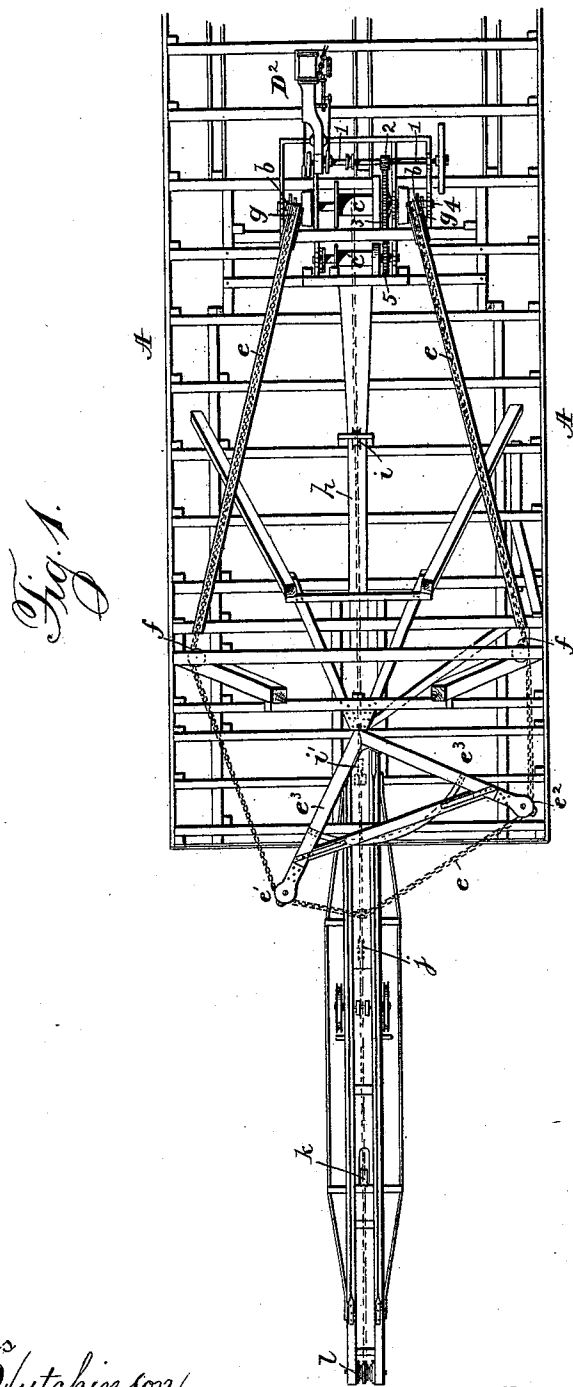
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3 Sheets—Sheet 1.

G. W. KING.  
DREDGER OR TRAVELING CRANE.

No. 494,638.

Patented Apr. 4, 1893.



Witnesses  
 *Jas. E. Hutchinson.  
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Attorneys

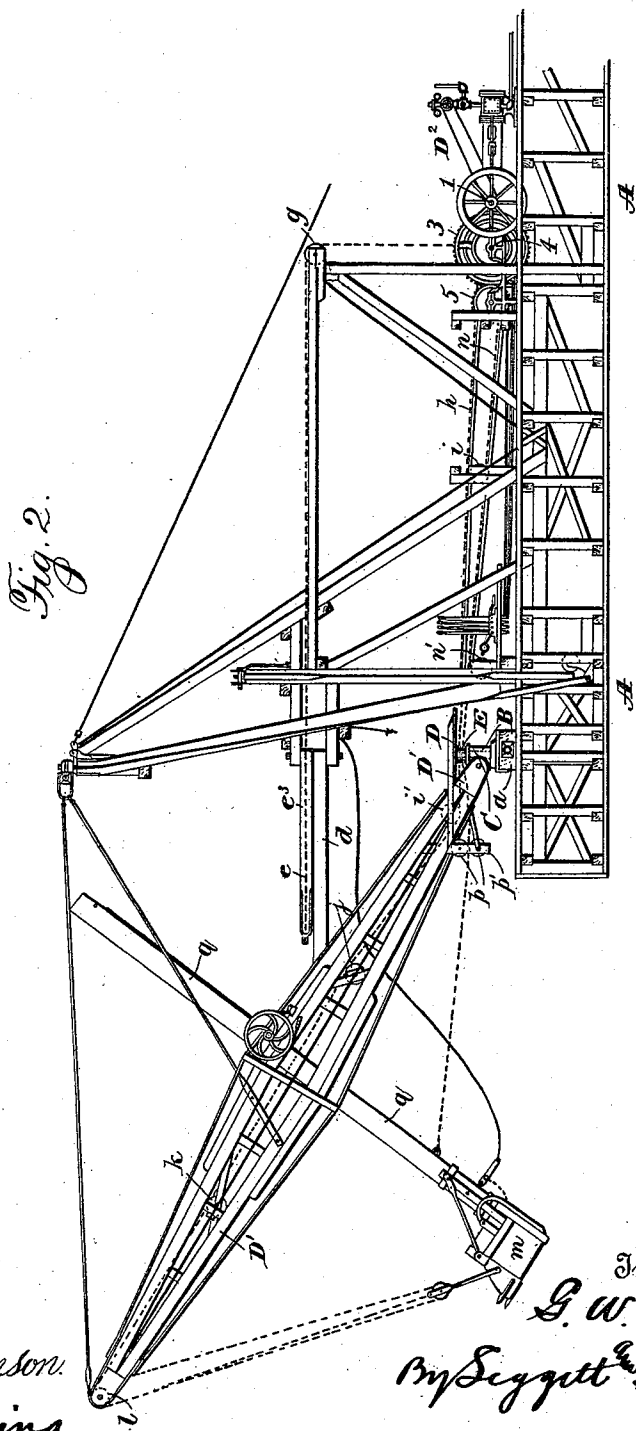
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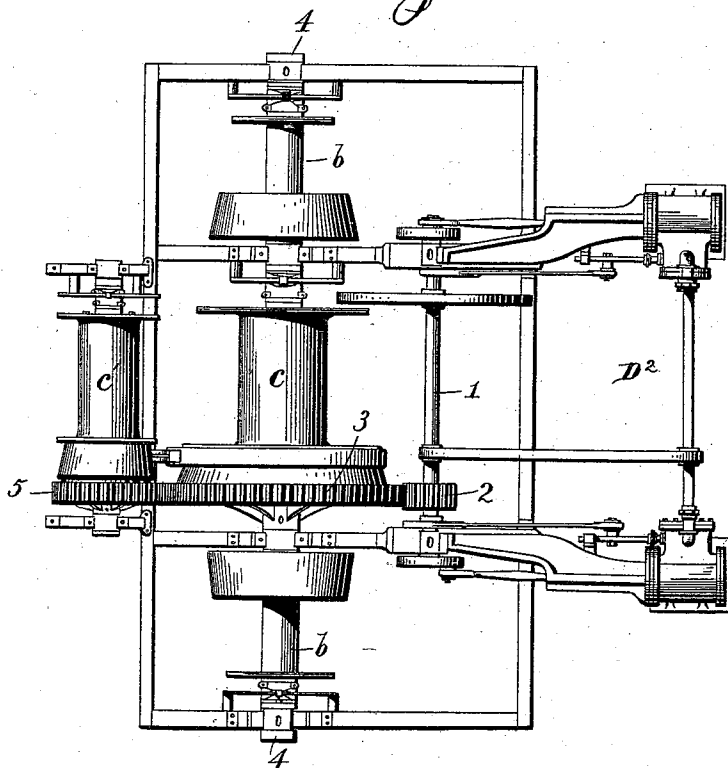
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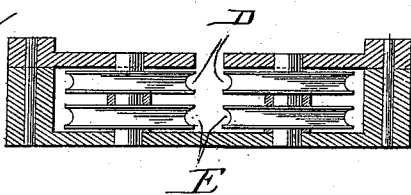
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*Fig. 3.*



*Fig. 4.*



Witnesses

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# UNITED STATES PATENT OFFICE.

GEORGE W. KING, OF MARION, OHIO.

## DREDGER OR TRAVELING CRANE.

SPECIFICATION forming part of Letters Patent No. 494,638, dated April 4, 1893.

Application filed May 10, 1892. Serial No. 432,469. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. KING, a resident of Marion, in the county of Marion and State of Ohio, have invented certain new and useful Improvements in Dredgers or Traveling Cranes; 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 an improvement in dredgers or traveling cranes, the object of the invention being to provide simple and efficient means for carrying and guiding the "haul-back" chain from the operating machinery to the crane or boom.

A further object is to provide simple and efficient means for swinging the boom or crane.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan elevation of a dredger embodying my invention. Fig. 2 is a side view. Fig. 3 is a detail view of the operating mechanism. Fig. 4 is a detail view.

A represents the dredger, on the forward portion of which timbers *a*, are located, on which a strong journal B is securely fastened. On this journal is placed a hub or box C, so arranged as to receive the foot of the crane or boom D', which is connected to it.

Secured to the top of the hub or box C is a frame or frames, C' in which two pairs of sister pulleys D, E, are mounted, the pulleys of each pair being arranged side by side and one pair being arranged above the other.

Located on the dredger, preferably about midway between its ends, is a steam engine D<sup>2</sup>, (or other motor,) adapted to transmit motion to a shaft 1, to which a pinion 2 is keyed. The pinion 2 is adapted to mesh with and convey motion to a gear wheel 3 carried by a shaft 4. The shaft 4 also carries a series of drums *b*, *b*, and *c*, and preferably a series of clutches for throwing one or more of said drums into or out of action.

Located in advance of the shaft 4 is a drum *c'*, on the shaft of which a pinion 5 is secured and adapted to mesh with the gear wheel 3,—

the shaft of the drum *c'* being also preferably provided with a clutch mechanism.

A timber *d* is secured at one end to the boom or crane D' and at the other end is attached to the dredger. To the timber *d* a chain *e* is attached at a point between its ends. From its connection with the timber *d* the chain *e* extends in opposite directions and passes over pulleys *e'*, *e''*, carried by timbers *e''*. After passing over the pulleys *e'*, *e''*, the chain *e* extends rearwardly and passes over pulleys *f*, supported near the top of the frame and in proximity to the sides thereof. From the pulleys *f* the ends of the chain extend rearwardly and inwardly and pass over pulleys *g*, mounted in the upper portion of the framework of the dredger. After passing over the pulleys *g* the ends of the chain *e* project downwardly and are secured to the drums *b*, *b*. From this construction and arrangement of parts it will be seen that when one or the other of the drums *b*, is caused to rotate, the crane or boom will be swung in one or the other direction. A chain *h* is secured at its rear end to the drum *c*, from which it passes over pulley *i*, carried by suitable brackets mounted on the dredger, and then between the sister pulleys D carried by the hub or box C. After passing between the sister pulleys D, the chain *h* extends upwardly on the boom or crane D' and over pulleys *j*, *j*, *k*, mounted on said boom or crane, and then over the pulleys *l* in the point or forward end of the boom or crane and finally connected with the bucket or scoop *m*, in the usual manner. A chain *n* is secured at its rear end to the drum *c'*, and extends forwardly, passing over a pulley *n'* mounted in suitable brackets on the dredger, and then through and between the sister pulleys E mounted on the hub or boxing C. After passing between the sister pulleys E, the chain *n* passes between sister pulleys *p* mounted in a bracket *p'*, depending from the boom or crane D'. After passing between the sister pulleys *p*, the chain *n* extends forwardly and is secured to the beam or gaff *q*, which carries the bucket.

From the construction and arrangement above described in connection with the haul back chain *n*, it will be seen that when the boom is swung at right angles to the boat, the haul back chain comes against one of the sis-

ter sheaves or pulleys E. When it is swung in the opposite direction the chain *n* will have a bearing against the opposite sister pulley E,—but the sheaves or pulleys E are so located that the swinging of the boom does not materially throw the chain out of line. By the provision of the sister pulleys E and their construction, arrangement and location, very simple and efficient means are provided for conducting or guiding the haul back chain past the pivotal connection of the boom to the boat or body of the dredger.

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

1. In a traveling crane, the combination with the boat or body portion, of a journal secured thereto, a hub or box mounted on said journal, a crane or boom connected to said hub, or box, a bucket beam or gaff, a bucket carried thereby, sister pulleys carried by said hub or box, and sister pulleys carried by the boom or crane, and a haul back chain passing between both pairs of said sister pulleys and secured at its forward end to the bucket beam or gaff, substantially as set forth.

2. In a traveling crane, the combination with the boat or body portion and a pivoted boom or crane, a timber secured at one end to the boom or crane and at the other end to the boat or body portion, of a chain connected at

a point between its ends with said timber, timbers projecting forwardly and laterally from the frame of the boat or body portion, pulleys carried by said timbers for the accommodation of said chain, pulleys located in the upper portion of the frame of the boat or body portion over which said chain passes, pulleys located at or near the center of the upper portion of the boat for the passage of the chain, drums to which the ends of said chain are connected, and a motor and mechanism for rotating said drums, substantially as set forth.

3. In a traveling crane, the combination with the boat or body portion, a pivoted boom or crane, and a timber or beam secured at one end to the boom or crane and at the other end attached to the frame of the boat or body portion, of a chain attached at a point between its ends to said beam or timber, pulleys for guiding said chain to opposite sides of the boat, drums to which the rear ends of said chain are secured, and means for rotating said drums, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

GEORGE W. KING.

Witnesses:

JOHN A. WALFORD,

J. F. MCNEAL.