

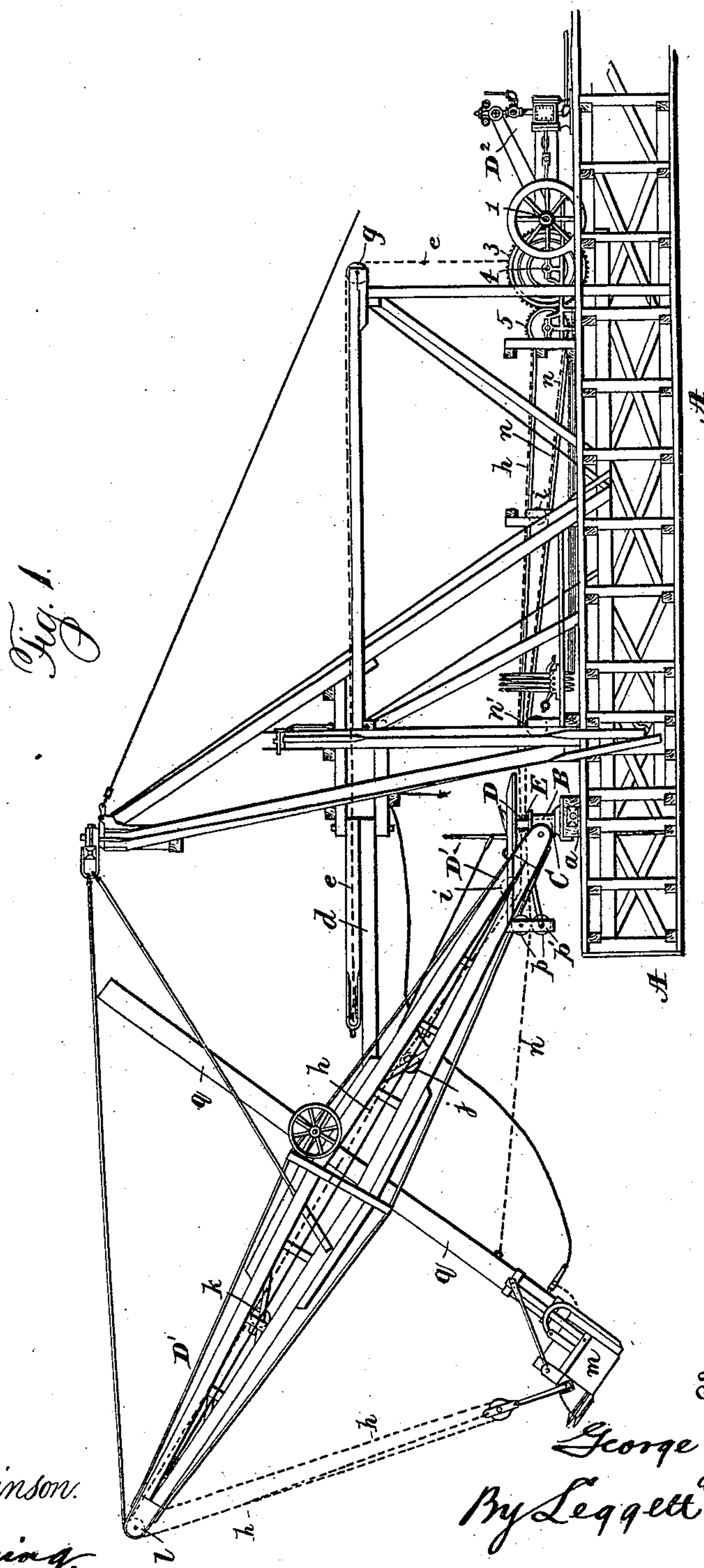
(No Model.)

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G. W. KING.
DREDGER OR TRAVELING CRANE.

No. 494,639.

Patented Apr. 4, 1893.



Witnesses:
Jas. E. Hutchinson.
G. F. Downing.

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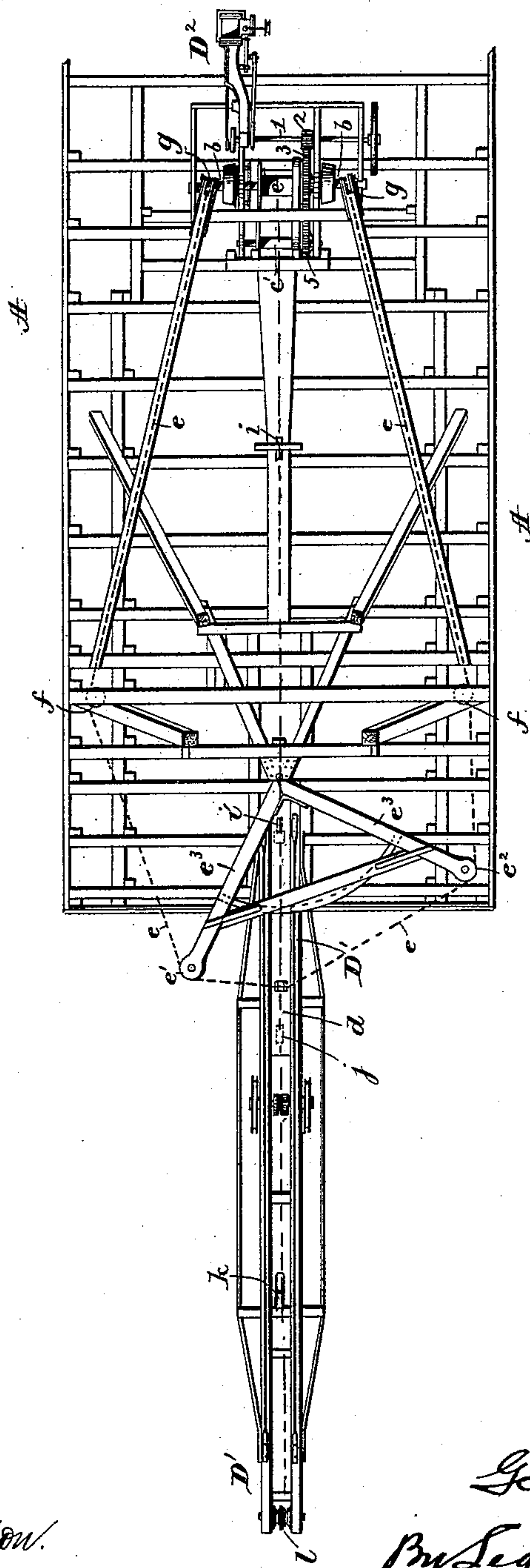
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Fig. 2.



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Fig. 3.

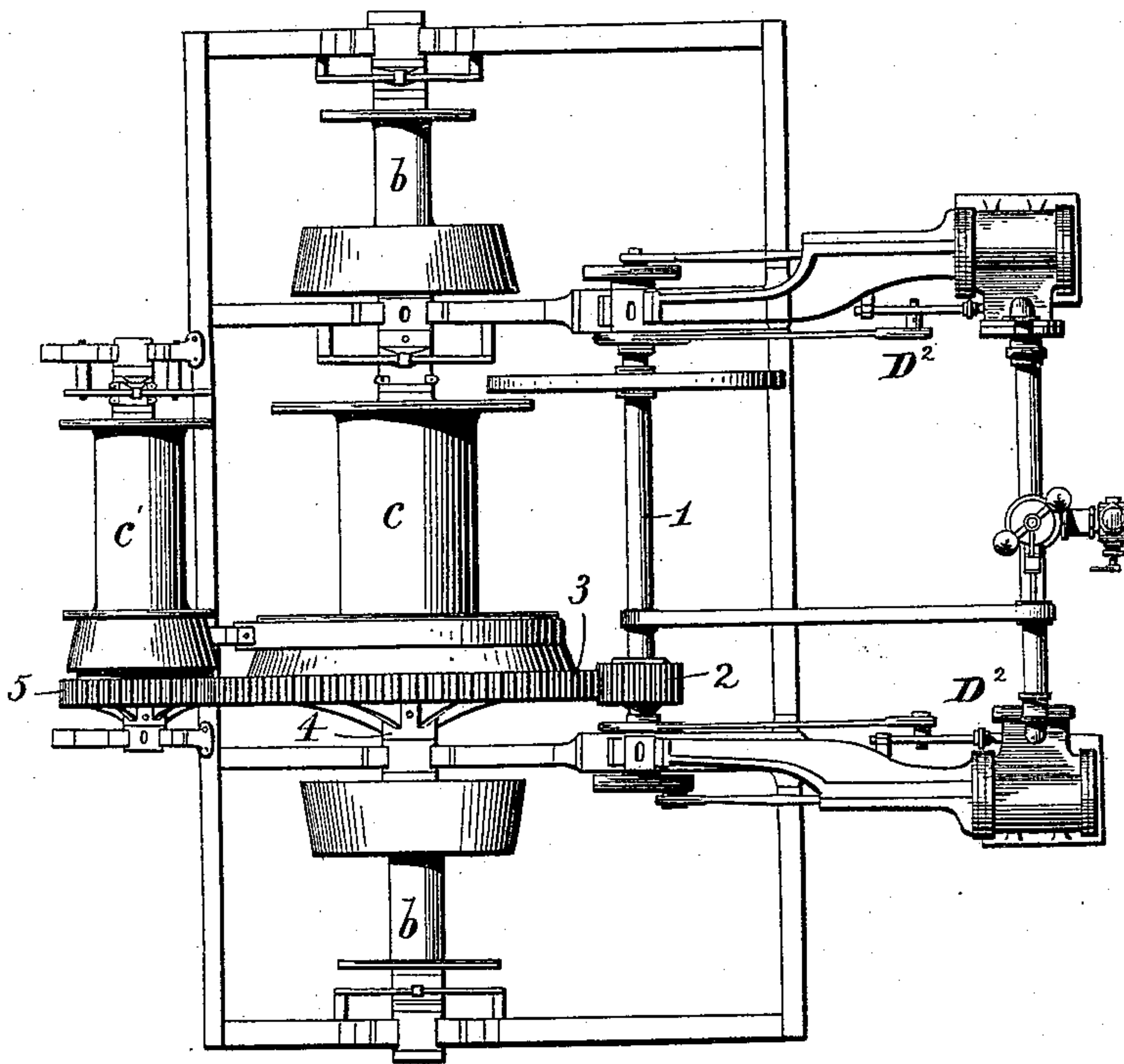
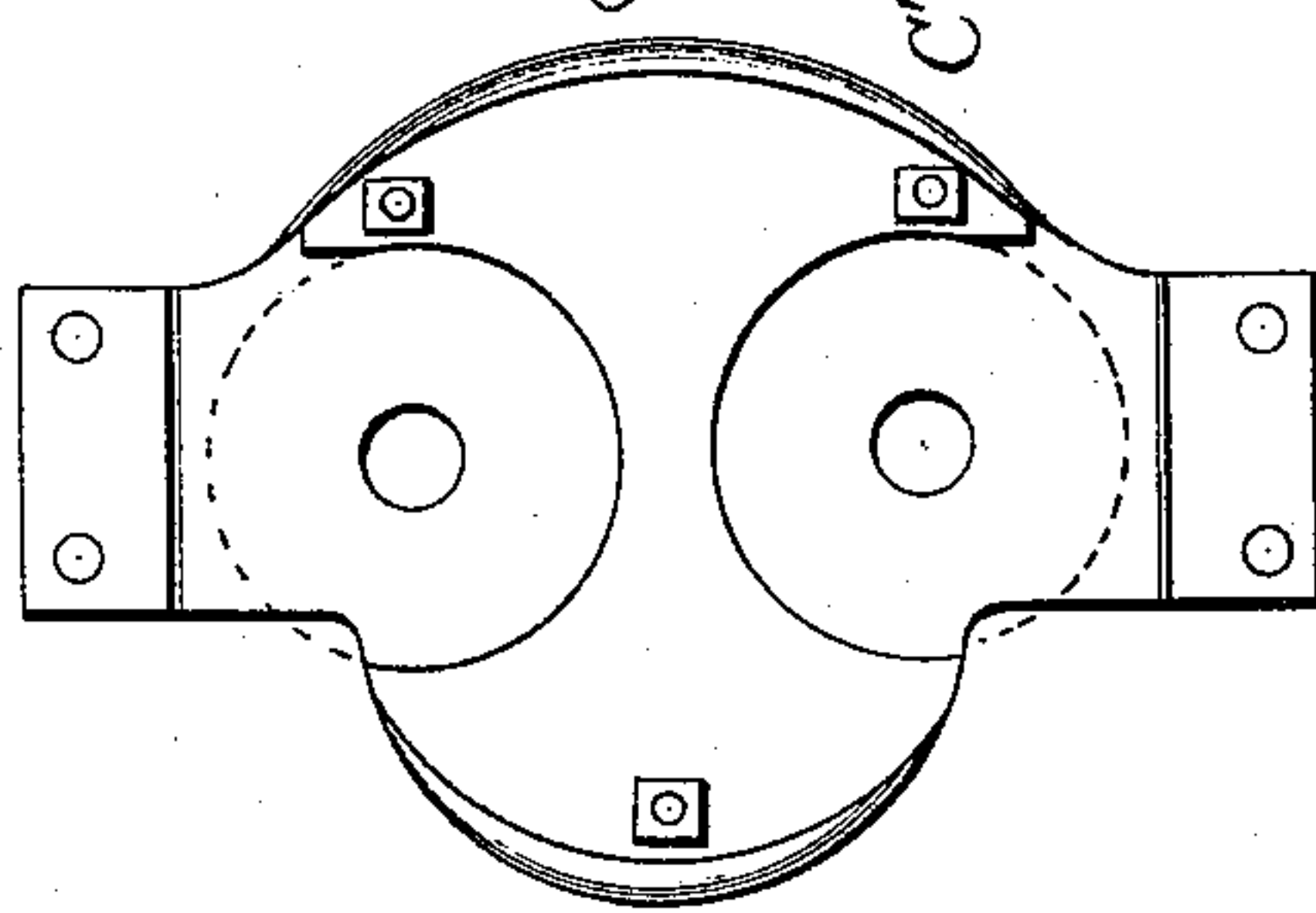


Fig. 4.



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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. 494,639, dated April 4, 1893.

Application filed May 14, 1892. Serial No. 433,027. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. KING, a citizen 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 hoisting chain from the hoisting machinery to the point of the crane.

A further object is to provide efficient means for guiding the hoisting chain by the pivotal connection of the crane or boom with the dredger.

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 side elevation of a dredger embodying my invention. Fig. 2 is a plan 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, 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 D² (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 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 crane 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 in 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 *i'*, *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 or 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 hoisting chain, it will be seen that when the boom

is swung at right angles to the boat, the hoisting chain comes against one of the sister sheaves or pulleys D. When it is swung in the opposite direction the chain *h* will have a bearing against the opposite sister sheave or pulley D,—but the sheaves or pulleys D 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 D, and their construction, arrangement and location as above set forth, very simple and efficient means are provided for conducting or guiding the hoisting 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 base or framework, of a journal secured thereto and projecting therefrom, a hub or box mounted on said journal, a boom or crane connected to said hub or box, a gaff carried by said boom and a bucket carried by said gaff, of two pairs of sister pulleys carried by said hub or box, a hoisting chain passing between the sister pulleys of one pair and con-

nected with said bucket, and a haul back chain passing between the other pair of sister pulleys and connected with the bucket, substantially as set forth.

2. In a traveling crane, the combination with a base and operating mechanism, of a journal secured to and projecting upwardly from the forward portion of said base, a hub on said journal, a boom connected to said hub, a gaff carried by the boom, and a bucket carried by the gaff, of two pairs of sister pulleys carried by said hub, pulleys carried by the boom and base, a hoisting chain connected at one end with the operating mechanism and passing over said pulleys on the boom and base and between one pair of said sister pulleys, and a haul back chain connected to said bucket and passing between the other pair of sister pulleys, substantially as set forth.

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

GEORGE W. KING.

Witnesses:

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J. F. MCNEAL.