

(No Model.)

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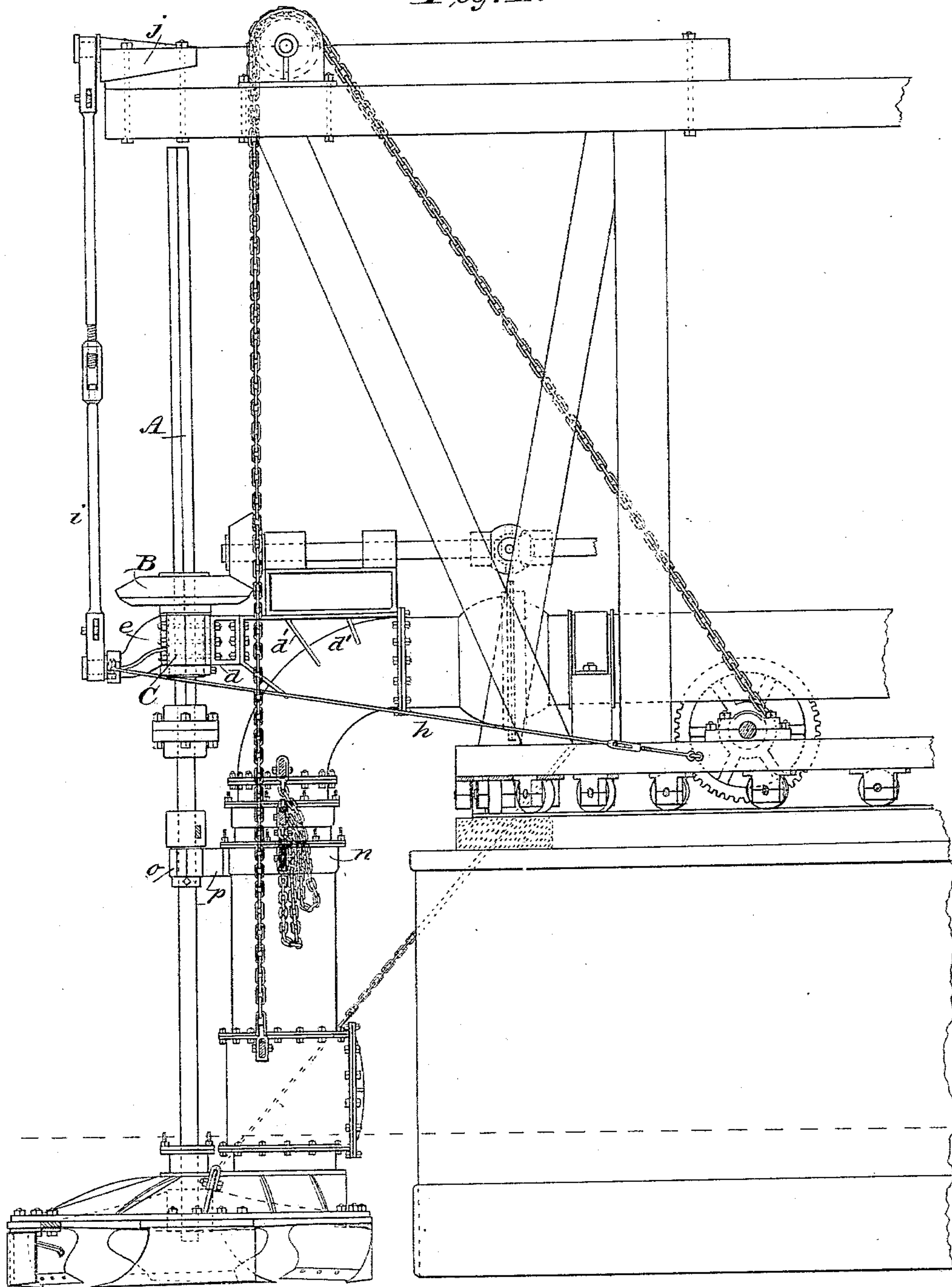
A. W. VON SCHMIDT.

DREDGING MACHINE.

No. 300,333.

Patented June 10, 1884.

Fig. 1.



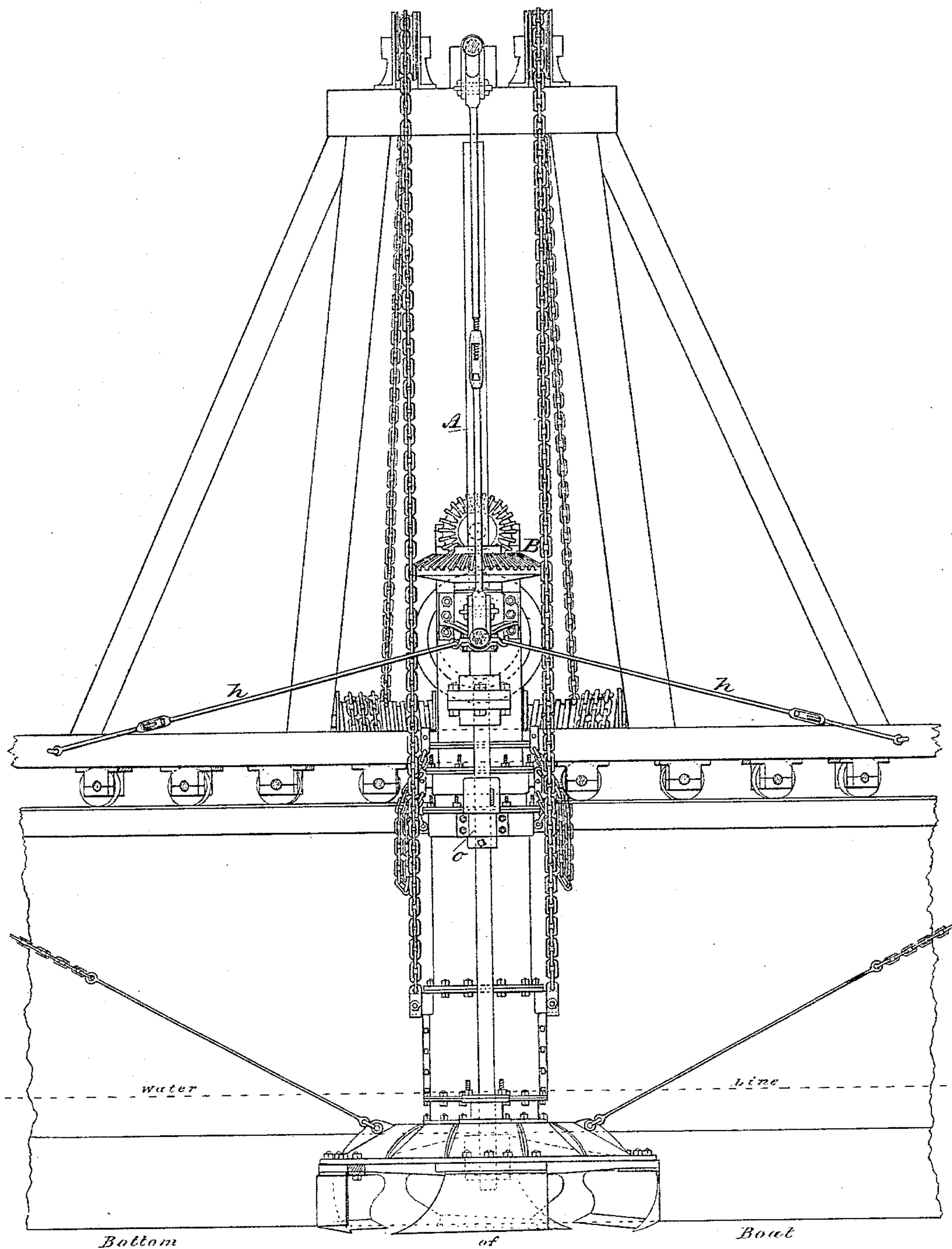
Witnesses:
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No. 300,333.

Fig. 2. Patented June 10, 1884.



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(No Model.)

3 Sheets—Sheet 3.

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DREDGING MACHINE.

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Fig. 4. Patented June 10, 1884.

Fig. 6.

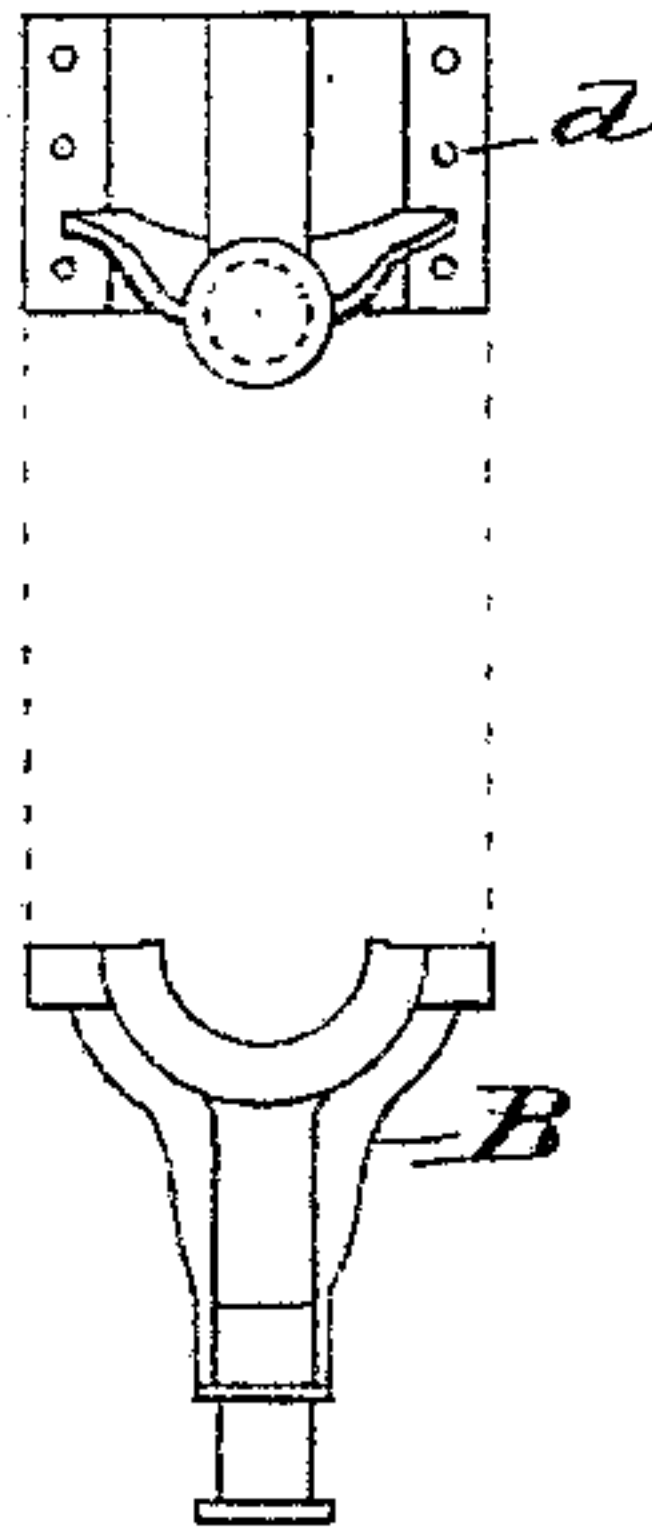
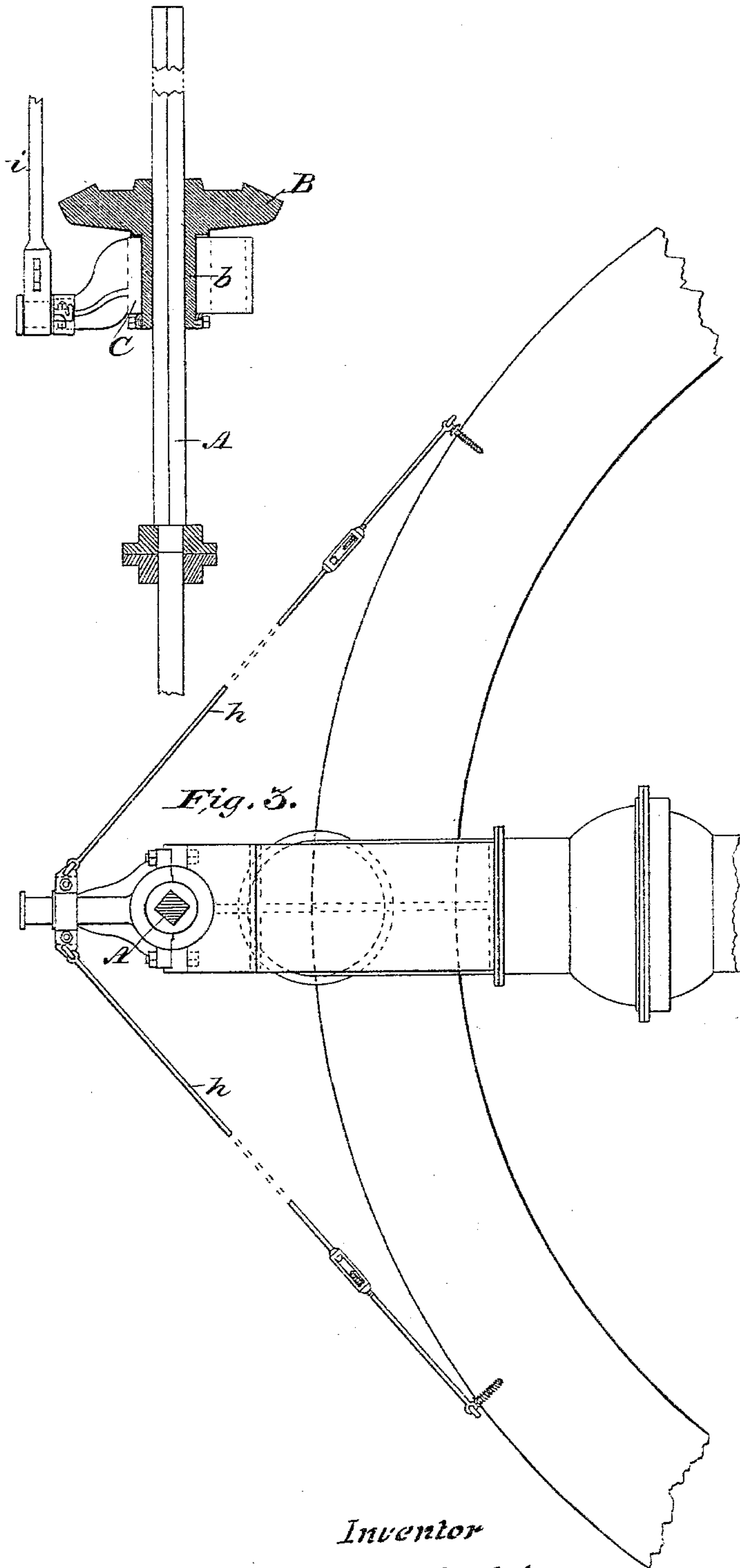
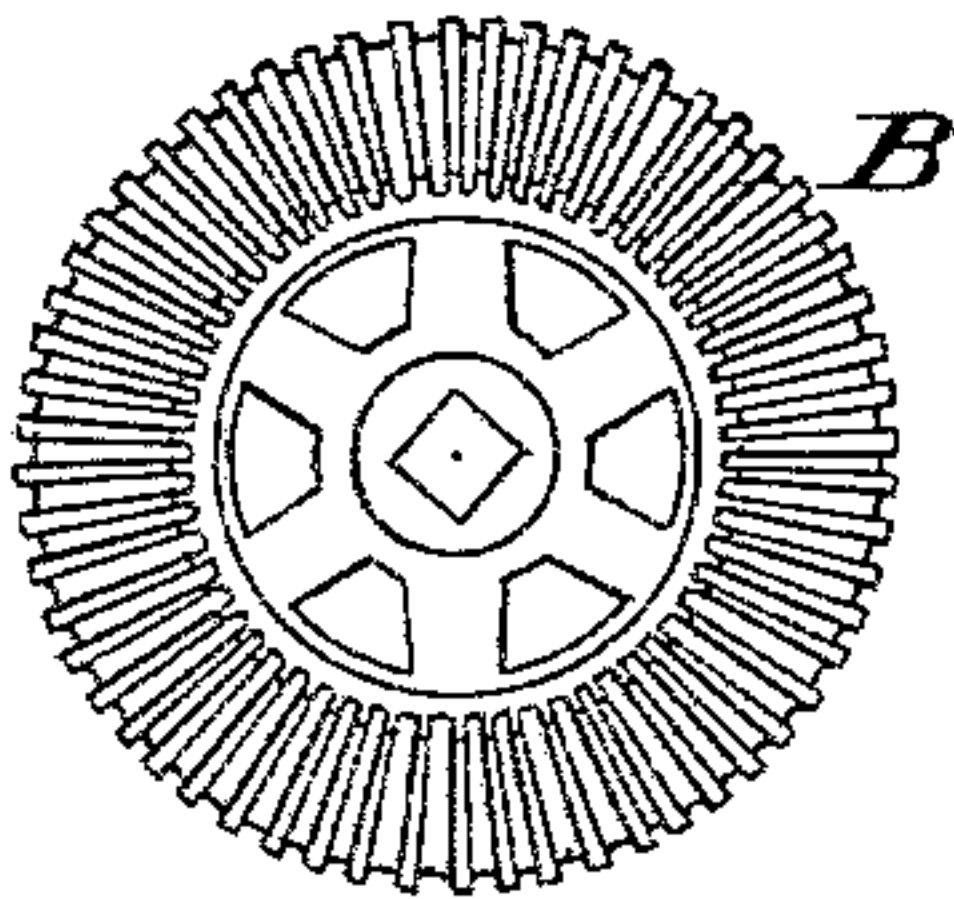


Fig. 5.



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UNITED STATES PATENT OFFICE.

ALEXEY W. VON SCHMIDT, OF SAN FRANCISCO, CALIFORNIA.

DREDGING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 300,333, dated June 10, 1884.

Application filed January 14, 1884. (No model.)

To all whom it may concern:

Be it known that I, ALEXEY W. VON SCHMIDT, of San Francisco, California, have invented a new and useful Improvement in Dredging-Machines, of which the following is a specification.

My invention relates to certain new and useful improvements in the dredging-machine shown in Patent No. 185,600, granted me on December 19, 1876. In that machine the matter to be removed from the bed of the stream is agitated by a rotary plow, and directed by it into the mouth of a tube, through which it is carried by suction to the surface. In the proper operation of the machine it is necessary to raise and lower the plow and the mouth of the tube to accommodate them to the varying depths of water. The tube is rendered easily adjustable by having one part telescope the other; but great difficulty is experienced in securing the proper arrangement of the plow, for the reason that there are required an adjustment and a connection between the power and the plow that will hold the plow firmly to its work during operation, and which at the same time admit of a ready change of positions. In the connection between the power and the plow shown in my patent hereinbefore referred to there are many defects, prominent among which is the fact that the shaft on which the plow is mounted is slotted for nearly its whole length to receive a lug or projection secured to the wall of the central opening in the crown-wheel, by which means the rod is compelled to turn with the wheel. Obviously this arrangement is very defective, for the reason that the slot in the rod greatly weakens it, and renders it liable to succumb to torsional strain; also, the weight of the crown-wheel and pipe, which both necessarily overhang, somewhat causes them to sag.

The object of the present invention is to remedy these defects; and to that end consists of the improved details of construction, as hereinafter fully set forth and specifically claimed.

In order that those skilled in the art to which my invention appertains may know how to make and use the same, I will now proceed to describe the same in connection with the accompanying drawings, in which—

Figure 1 represents a side elevation of the dredger with my improvements incorporated. Fig. 2 is a front view of the same, and Figs. 3, 4, 5, and 6 are detail views of the various improved parts.

In these drawings like letters refer to like parts in the several figures.

For a description of parts shown and not described, reference may be had to the patent hereinbefore referred to.

A represents the shaft carrying the submarine plow, and B the crown-wheel through which motion is communicated from the driving-shaft to the plow-shaft. In order to avoid weakening the shaft A by making a slot for the reception of a pin or lug, I make the said shaft angular in cross-section, preferably square, and provide the crown-wheel B with a corresponding opening of a size slightly greater than the shaft, so that while the latter is free to slide up and down it is turned by the wheel.

As shown more clearly in Fig. 4, the crown-wheel B is made with an integral downward projection, *b*, having its bearing in the bracket C. This bracket C is made in two parts, *d* and *e*. The portion *d* is secured to a bracket having the depending arms *d'*, by means of which the said bracket is secured to the pipe. The parts *d* and *e* are both provided with a circular groove for the reception of the shank of the crown-wheel, and the two parts are secured together by bolts passing through flanges of the part *e* and the side of the portion *d*. The part *e* of the bracket-bearing has a reduced extension of a length to allow the rod or chain *i*, which is attached to the said extension, to clear the wheel B. The upper end of this chain is secured to the bracket *j*, which is preferably of the form shown in Fig. 1, and the said chain is provided with a turn-buckle, so that its length may be lessened in order to take up any sag caused by the overhanging of the conduit-pipe and crown-wheel B.

In the operation of the machine I have found that when the position of the table is being changed there is a tendency on the part of the pipe and plow-shaft to spring out of position. So, in order to remedy this, I have provided the two rods *h*, provided with turn-buckles, so that they may be kept taut under

all circumstances, and secure one end of each to the portion *e* of the bracket-bearing, and the other ends to the main frame of the machine.

To render but one lifting device necessary to the operation of the pipe and plow-shaft, I have connected the two by means of two collars, *n o*, which are connected by a piece of metal, *p*, so that the motion up or down of the plow-shaft is regulated by that of the tube.

10 Having thus described my invention, what I claim is—

1. The combination, with the plow and conduit-pipe of a dredger of the kind specified, of the shaft A, angular in cross-section, the crown-wheel B, having a central opening 15 adapting it for the reception of a shaft, A, and the bracket C, made in two parts and adapted for the reception of the shank of the wheel B and secured to the pipe, substantially as described.

20 2. The combination, with the plow-shaft and

conduit-pipe of a dredger of the kind specified, of the bracket-bearing made in two parts, and the gear-wheel B, having the shank *d* and central angular opening, substantially as described. 25

3. In combination with the conduit-tube and plow-shaft of a dredger of the kind specified, the bracket C, constructed as described, and the rod *i*, having turn-buckle, substantially as described. 30

4. The combination, with the plow-shaft and conduit-tube of a dredger of the kind specified, of the bracket C, having the projection *e* and the rods *h*, substantially as described. 35

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ALEXEY W. VON SCHMIDT.

Witnesses:

JULIUS H. VON SCHMIDT,

DAVIS B. STACEY.