No. 714,996. Patented Dec. 2, 1902.

# L. W. BATES.

## HYDRAULIC DREDGE.

(Application filed Aug. 28, 1900. Renewed May 5, 1902.)

(No Model.) 3 Sheets—Sheet 1.

FIG. 1

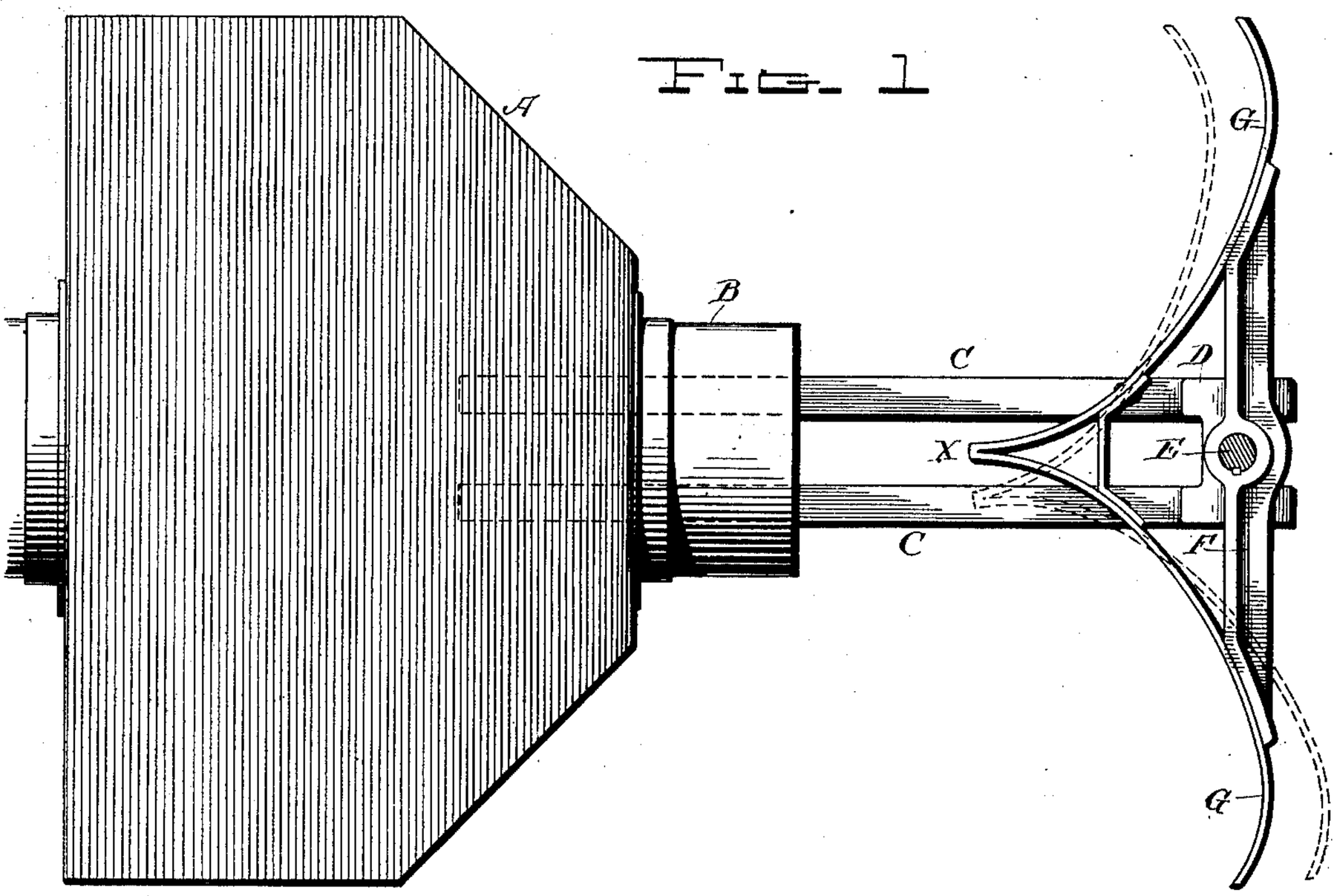
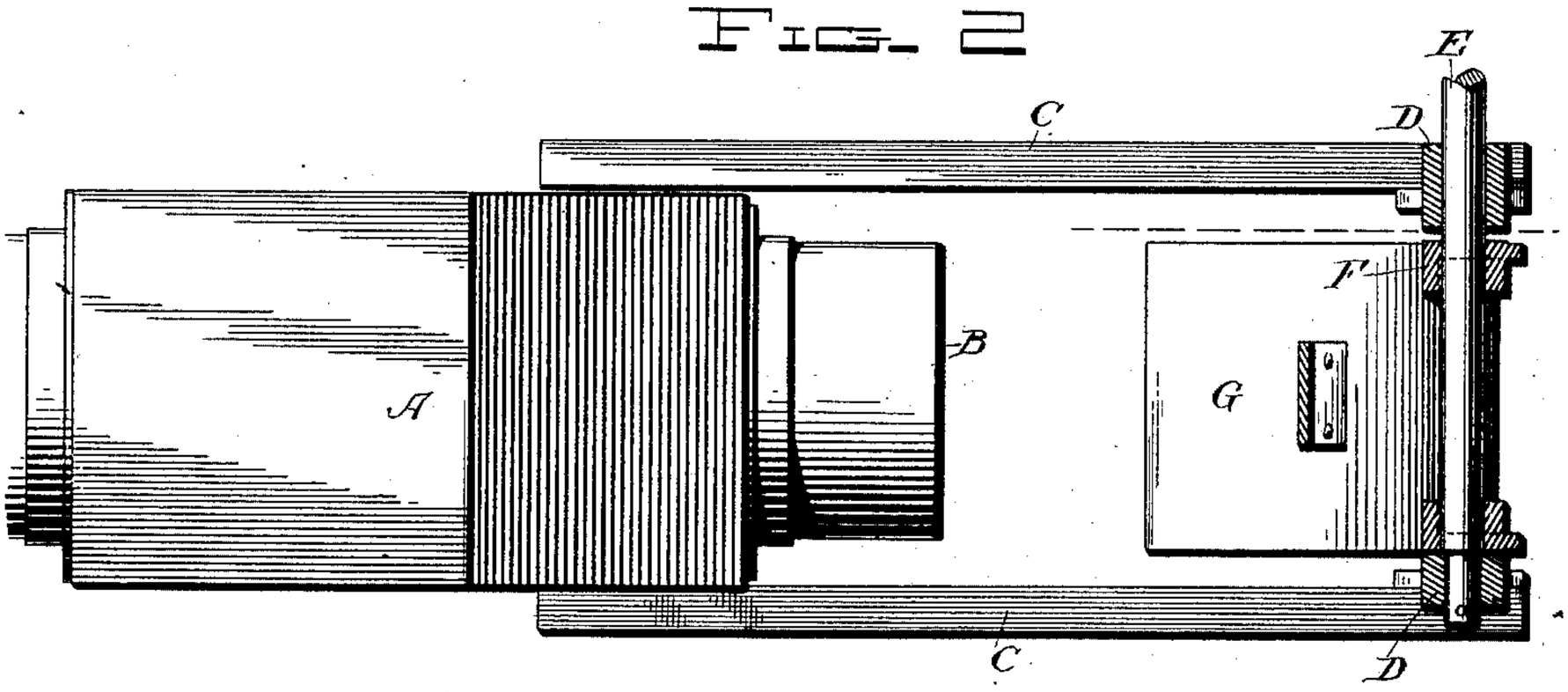



FIG. 2

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(Application filed Aug. 28, 1900. Renewed May 5, 1902.)

(No Model.) 3 Sheets—Sheet 2.

FIG. 3

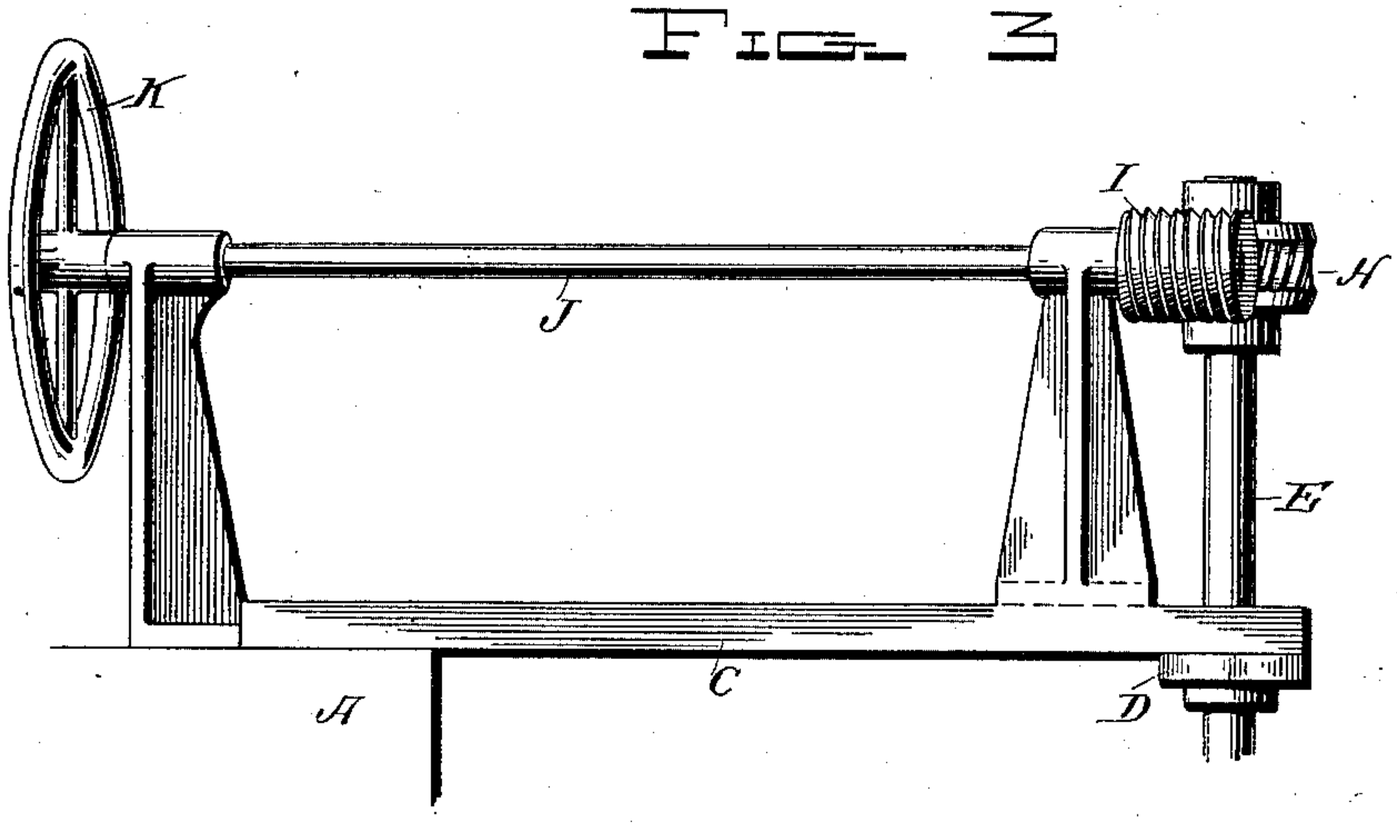
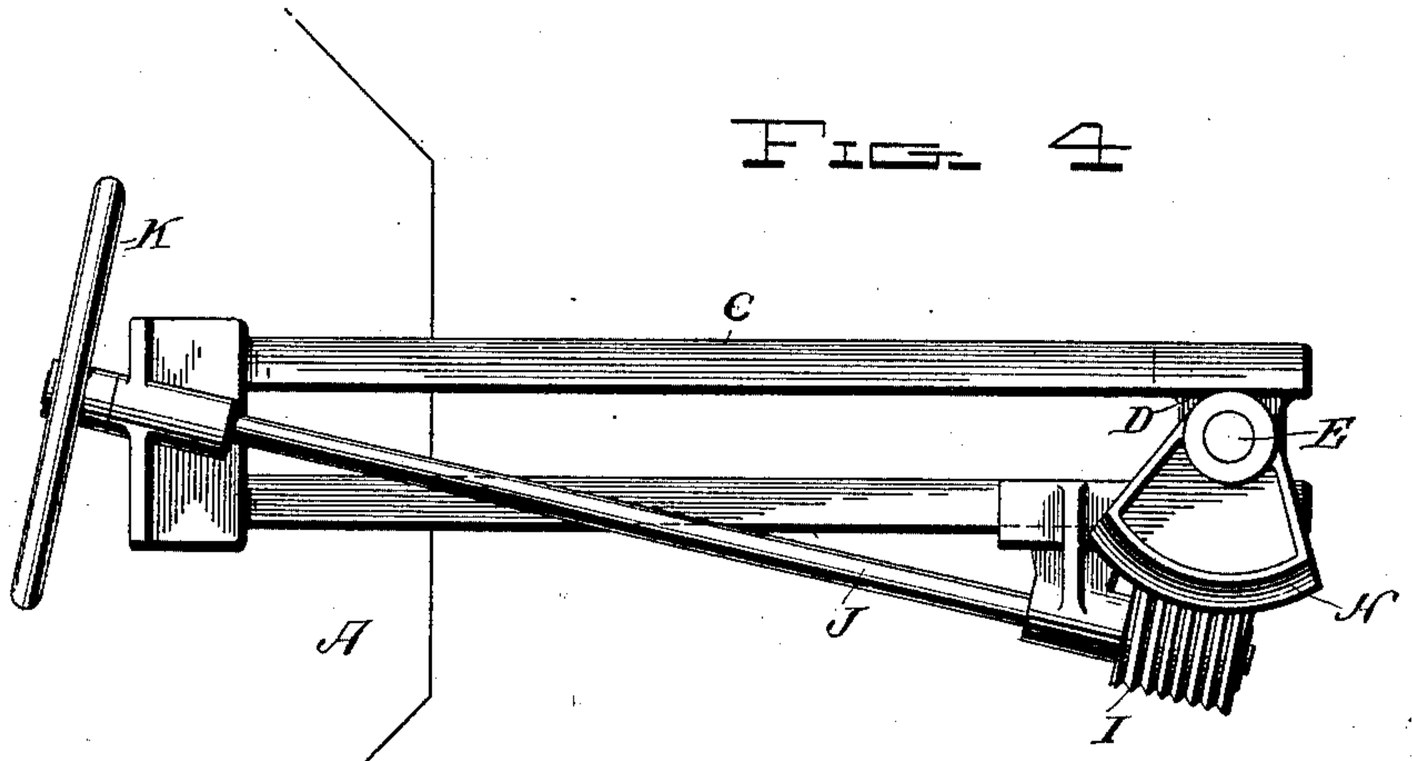



FIG. 4

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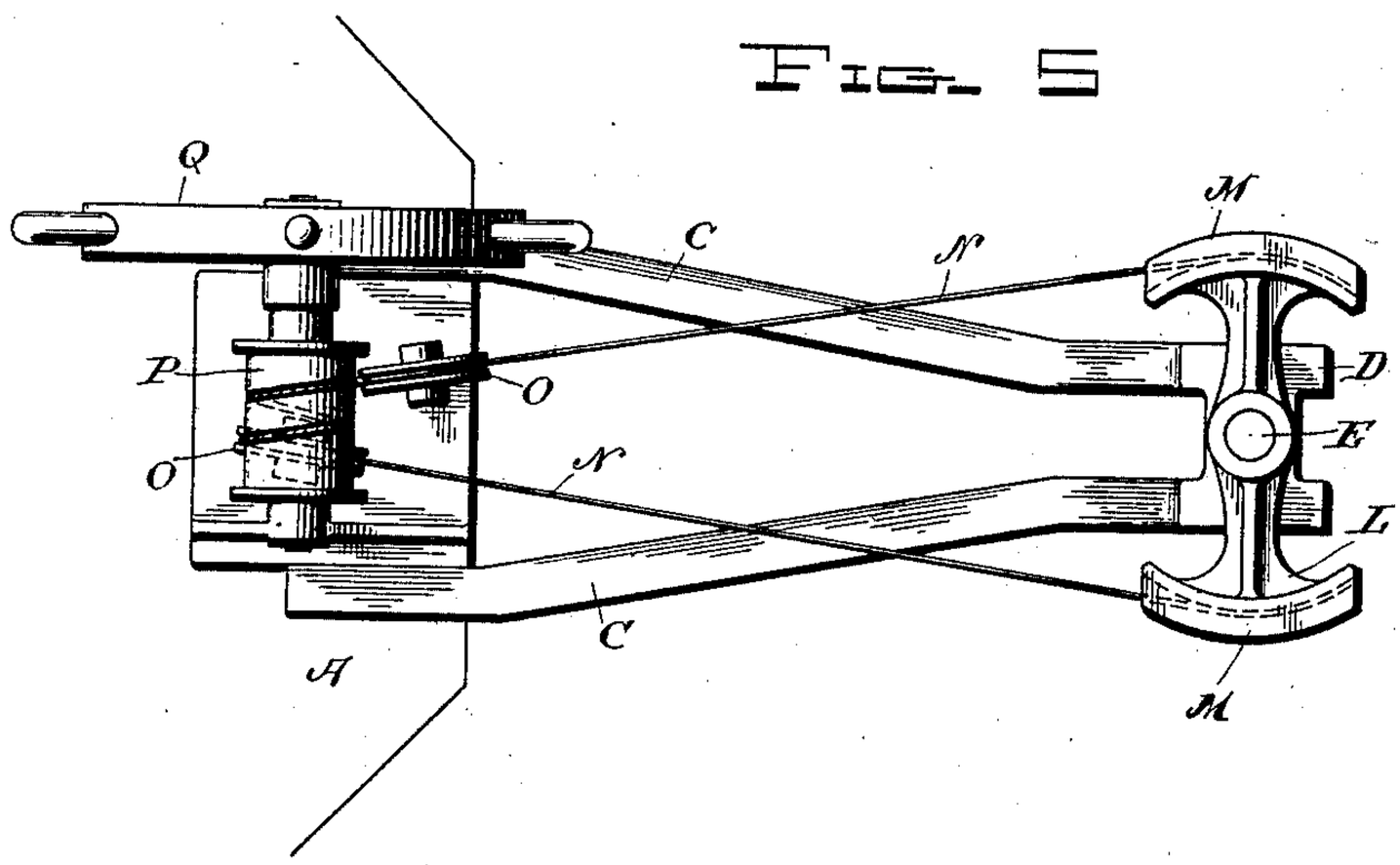
(No Model.) 3 Sheets—Sheet 3.

FIG. 5



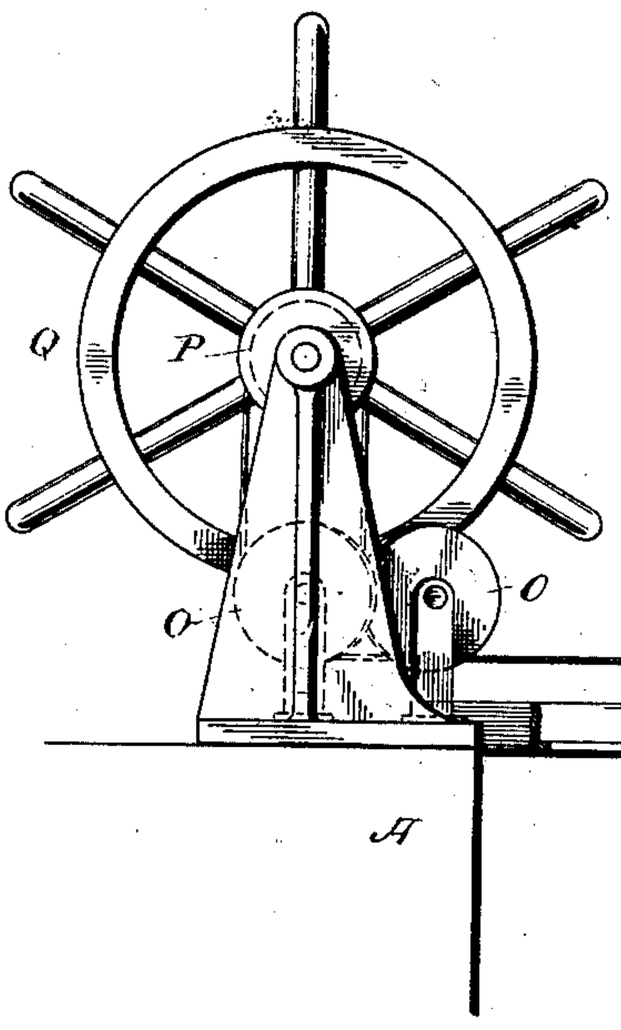




FIG. 6

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# UNITED STATES PATENT OFFICE.

LINDON WALLACE BATES, OF CHICAGO, ILLINOIS.

## HYDRAULIC DREDGE.

SPECIFICATION forming part of Letters Patent No. 714,996, dated December 2, 1902.

Application filed August 28, 1900. Renewed May 5, 1902. Serial No. 105,982. (No model.)

*To all whom it may concern:*

Be it known that I, LINDON WALLACE BATES, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Hydraulic Dredges, of which the following is a specification.

My present invention pertains to improvements in hydraulic dredges, and relates more particularly to the mechanism for controlling the discharge-stream as it issues from the floating discharge-pipe, and consequently to the position of said pipe.

The invention is related more or less directly to that shown and described in Letters Patent of the United States granted to me under date February 2, 1897, and in my pending application filed on or about July 13, 1900, Serial No. 23,511.

The object of this invention is to provide a different mounting for the baffle-plate, to so construct it that it need not be shifted bodily across the line of discharge, but simply turned so as to vary its angular position with relation to the discharge.

In the accompanying drawings, Figure 1 is a top plan view, partly in section, of the end section of a discharge-pipe with the baffle-plate attached thereto; Fig. 2, a vertical sectional view thereof; Fig. 3, a side elevation of one form of shifting device for the baffle-plate; Fig. 4, a top plan view of the same; Fig. 5, a top plan view of a modified form of shifting apparatus, and Fig. 6 a side elevation of the same.

Referring first to Figs. 1 to 4, inclusive, A designates the end pontoon, and B the discharge end of the pipe carried thereby. Extending outwardly in rear of said pontoon in line with the discharge-pipe are braces or brackets C C, provided with bearings D, in which is mounted a vertically-disposed shaft or spindle E. Arms or brackets F are keyed to said shaft or spindle E, as will be clearly seen upon reference to Figs. 1 and 2, and to the outer ends of said arms or brackets is secured the baffle-plate, composed of or comprising the two curved members G, coming to a point or apex at *x* in line with the mouth of the discharge-pipe B. The form of this baffle-plate may be that shown in my patent above referred to or that of my application now pending, also above alluded to.

To rotate the shaft or spindle E, and consequently to vary the position of the baffle-plate with relation to the discharge-pipe, there is secured to the upper end of the shaft or spindle E a sector gear or quadrant H, with which meshes a worm I, mounted upon a shaft J, which shaft is supported in suitable bearings secured on the brackets or braces C, or the pontoon.

An operating-wheel K is mounted upon the inner end of the shaft J. By turning said wheel and the shaft the position of the baffle-plate may be varied as desired, throwing its apex to one or the other side of the central point of the discharge-pipe, and consequently deflecting the discharge-stream to one side to a greater extent than to the other, which will of necessity vary the position of the pontoon-line.

The worm and quadrant form a self-locking device for the baffle-plate, no matter what may be its adjusted position, and this construction is of course advantageous.

In Figs. 5 and 6 is shown a modified form of means for varying the position of the baffle-plate. To the upper end of the shaft or spindle E is secured an arm or bracket L, having formed integral therewith upon its outer ends curved plates or quadrant members M, to which are attached the ends of a strap or band N, which passes under pulleys O and about a grooved drum P, carried by a shaft mounted in suitable standards secured to the pontoon. A capstan or operating-wheel Q is secured to one end of the shaft which supports the drum. The operation of this construction is obvious. Any means which will rotate the shaft, and consequently vary the position of the baffle-plate, may be employed, though, by preference, one which is self-locking will be used, as its advantages are manifest.

Having thus described my invention, what I claim is—

1. In combination with the discharge-pipe of a dredge, a fixed support extending out rearwardly therefrom in line with the pipe; a baffle-plate pivotally mounted on said support, the pivotal point of said plate being in

approximate alinement with the axis of the pipe; and means for swinging said plate about its pivot.

2. In combination with the discharge-pipe of a dredge, a fixed support extending out rearwardly therefrom in line with the pipe; a baffle-plate pivotally mounted on said support in line with the pipe, said plate being of the same contour on opposite sides of the pivotal point; and means for varying the position of said plate and maintaining it in its adjusted position, substantially as described.

3. In combination with the discharge or delivery pipe of a dredge, a baffle-plate pivotally mounted in line with said pipe and having divergent faces, and means for moving said baffle-plate about its pivot, whereby its apex will be thrown to one or the other side of the center of said pipe.

4. In combination with a pontoon, a discharge-pipe carried thereby, suitable supports extending outwardly from said pontoon, a shaft or spindle journaled in said supports, a baffle-plate connected to and carried by said shaft, and means operated from the pontoon for rotating said shaft.

5. In combination with a pontoon, a discharge-pipe carried thereby, suitable supports extending out in rear of said pontoon, a shaft journaled in said supports, a baffle-plate connected to said shaft, a sector-gear carried by the shaft, a worm meshing with said gear, and means for operating said worm.

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

LINDON WALLACE BATES.

Witnesses:
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