No. 707,293. Patented Aug. 19, 1902.

L. W. BATES.

HYDRAULIC DREDGE.

(Application filed July 19, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

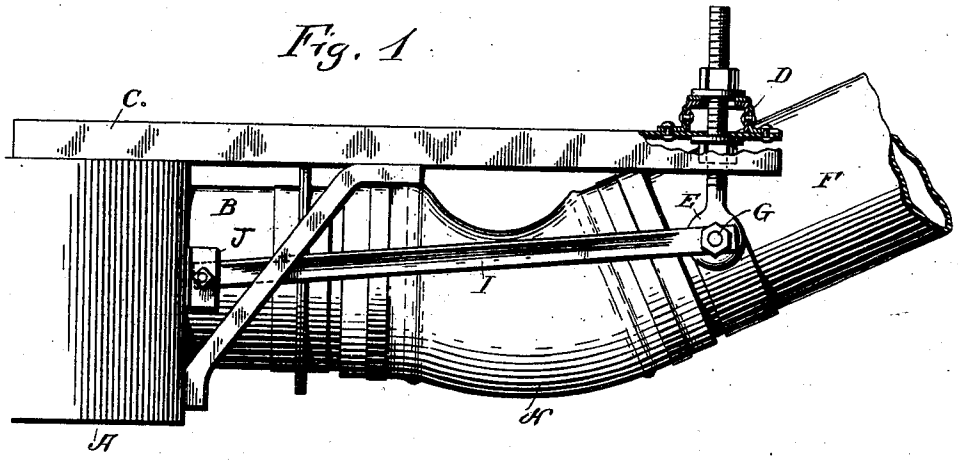
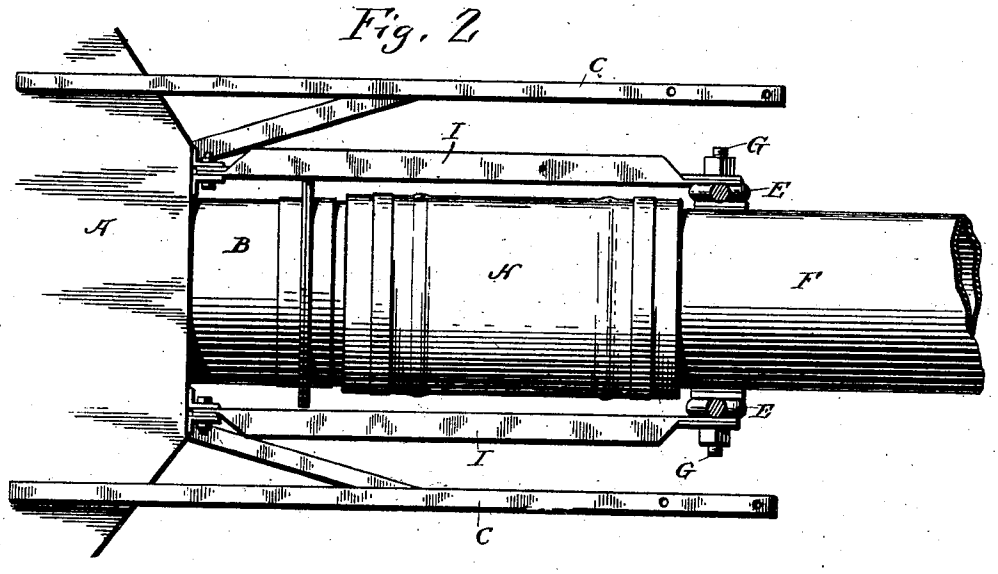


Fig. 2.



WITNESSES

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Fig. 3

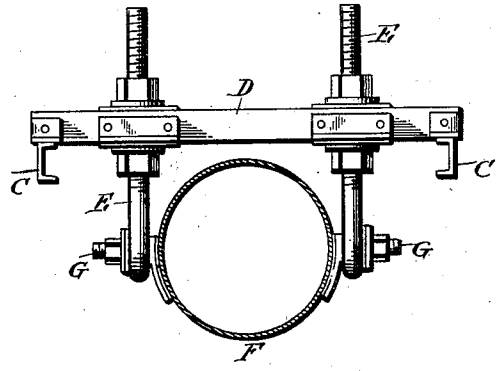
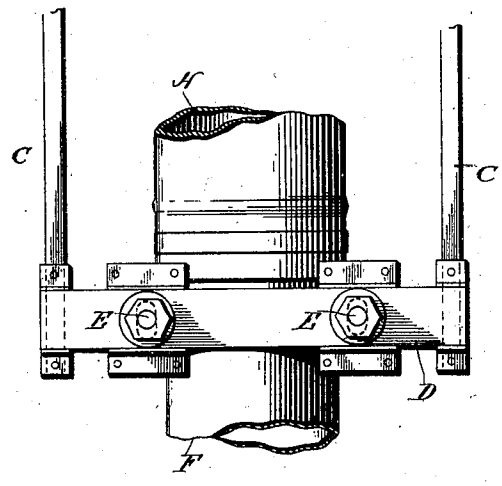


Fig. 4



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UNITED STATES PATENT OFFICE.

LINDON WALLACE BATES, OF CHICAGO, ILLINOIS.

HYDRAULIC DREDGE.

SPECIFICATION forming part of Letters Patent No. 707,293, dated August 19, 1902.

Application filed July 19, 1900. Serial No. 24,250. (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 relates to an improved device for attaching and maintaining in position the shore discharge-pipe of hydraulic machinery, the advantages and construction of which device will be hereinafter set forth, reference being had to the annexed drawings, in which—

Figure 1 is a side elevation of the apparatus; Fig. 2, a top plan view of the same, certain portions being omitted; Fig. 3, a transverse section through a portion of the discharge-pipe, and Fig. 4 a top plan view of the parts shown in section in Fig. 3.

The object of my invention is to provide a suitable support for the connection of the end of the discharge-pipe carried by the pontoon and the corresponding end of the shore discharge-pipe.

In the drawings, A represents a pontoon carrying a discharge-pipe B. Secured to and extending outwardly from the upper face of said pontoon are arms or levers C, having secured to them near the outer ends a cross or bridge piece D, preferably made up of channel-bars and angle-plates, as indicated in section in Fig. 1. Mounted within and extending downwardly from said bridge-piece are two eyebolts E, adjustably secured in said bridge-piece, so that they may be raised or lowered, as occasion may demand. Said bolts are designed to form a support for the end of the shore discharge-pipe F, being connected to said pipe by two trunnions G, which find their bearings in the eyes of the eyebolts.

Pipe F is connected to the discharge-pipe B by an intermediate flexible section H, of rubber or other similar material, which may, if desired, be protected by any suitable armor.

Radius-bars I are pivotally connected to brackets J, secured to the pontoon, and at their opposite ends are likewise connected to the trunnions G. With the construction thus described the shore-pipe is free to assume any angle up to that shown in Fig. 1 with the axis of the pontoon, and it is therefore necessary to make provision for minimizing the strain on the rubber connecting-section H, as this angle varies. This is accomplished by simply raising or lowering the eyebolts E according to the elevation of the shore discharge-pipe. The radius-bars I take up and thrust, which the weight of the shore discharge-pipe may put on the trunnions when the pipe is elevated. It is obvious that various equivalent constructions will suggest themselves for the details herein set forth, and I do not desire to be understood as limiting myself strictly to those shown.

Having thus described my invention, what I claim is—

1. In combination with a pontoon, a discharge-pipe carried thereby; a shore discharge-pipe; a flexible connection intermediate said pipes; a pivotal support for the shore discharge-pipe; and means for raising and lowering said support.

2. In combination with a pontoon, a discharge-pipe carried thereby; a shore discharge-pipe; a flexible connecting-section intermediate said pipes; a pivotal support for said shore discharge-pipe supported from the pontoon; and means for changing the height of said support.

3. In combination with a pontoon; a discharge-pipe carried thereby; a shore discharge-pipe; a flexible connecting-section intermediate said pipes; a pivotal support for said shore discharge-pipe supported from the pontoon; and means for relieving said intermediate section from the thrust of the shore discharge-pipe.

4. In combination with a pontoon, a discharge-pipe carried thereby; a shore discharge-pipe; a flexible connecting-section intermediate said pipes; a pivotal support for said shore-pipe supported from the pontoon; means for adjusting the height of said support; and means for relieving the intermediate flexible section from the thrust of the shore discharge-pipe.

5. In combination with a pontoon, a discharge-pipe carried thereby; arms or levers extending outwardly from said pontoon; a bridge-piece extending across between said arms; a shore discharge-pipe; pivotal connections between said pipe and the bridge-piece; thrust-bars extending from said piv-

otal connection back to the pontoon; and a flexible section interposed between the discharge-pipe of the pontoon and the shore discharge-pipe.

6. In combination with a pontoon, a discharge-pipe carried thereby; arms or levers C extending outwardly from said pontoon; a bridge-piece extending across between said arms; eyebolts extending down from and adjustably secured to the said bridge-piece; a shore discharge-pipe F; trunnions connected to said pipe and bearing in the eyes of the eyebolts; radius-bars connected to said trunnions and pivotally connected at their opposite ends to the pontoon; and a flexible section H interposed between the discharge-pipe on the pontoon and the shore discharge-pipe.

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

LINDON WALLACE BATES.

Witnesses:
PERCY E. MATTOCKS,
EDMUND S. SNEWIN.