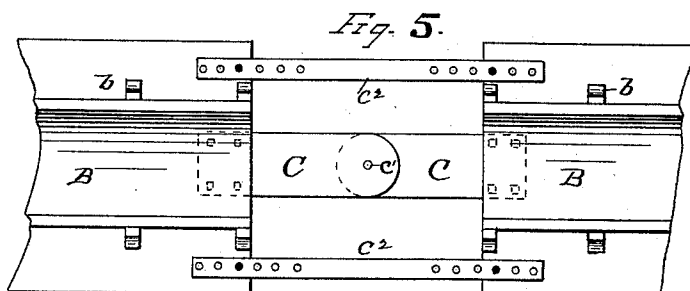
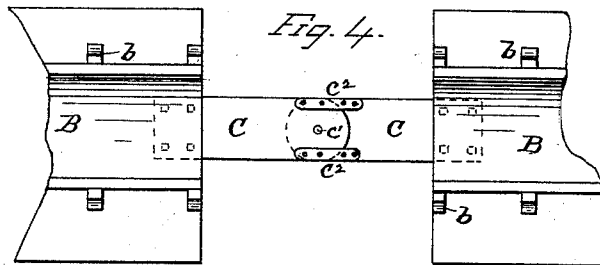
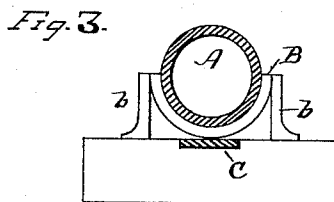
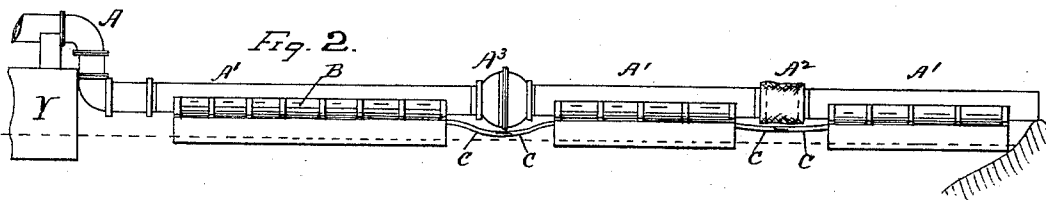
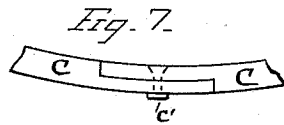
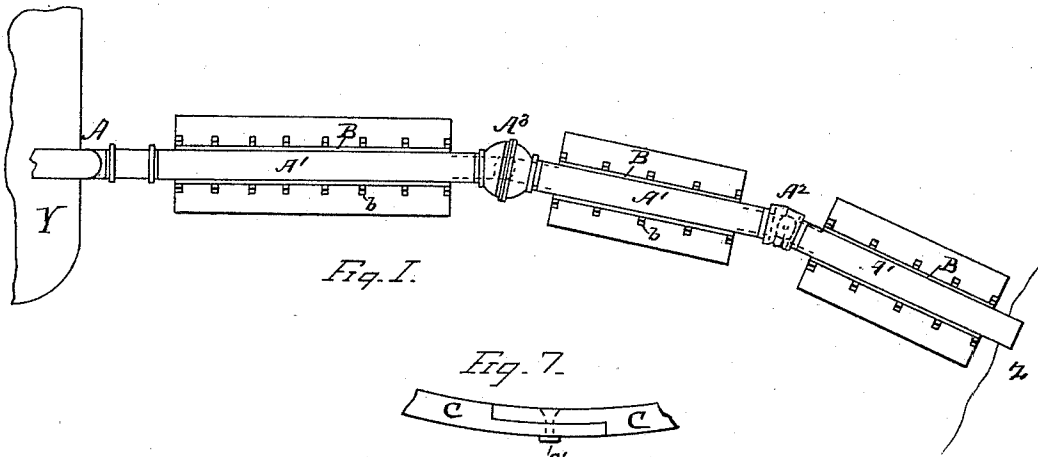


(No Model.)

W. P. HUMPHREYS.
SUPPORT FOR DREDGING CONDUITS.

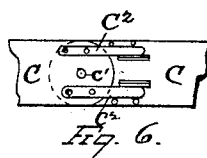
No. 417,187.

Patented Dec. 10, 1889.



WITNESSES

Chas. B. Sullivan.
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UNITED STATES PATENT OFFICE.

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SUPPORT FOR DREDGING-CONDUITS.

SPECIFICATION forming part of Letters Patent No. 417,187, dated December 10, 1889.

Application filed October 1, 1889. Serial No. 325,645. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. HUMPHREYS, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Supports for Dredging-Conduits; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to devices for supporting the discharge pipe or conduit of a dredging-machine, and has for its object, first, the provision of a positive and continuous rest or support, both on bottom and sides, of the sections of pipe or conduit resting upon the pontoons or floats; second, the provision of a support for the connections or joints of such pipe occurring between such sections and lying over the spaces between the pontoons; third, by reason of the provisions of the two preceding sections the provision of a continuous support for the pipe throughout its length; fourth, the provisions of a swivel-connection in the supports between the pontoons, so that these supports can be moved, turned, or swayed, as desired, or as occasioned by wind and water, and remain directly under or tangent to the curve or joint of the pipe; fifth, the provision of means whereby the connections may be made rigid and all turning obviated; sixth, the provision of means whereby the pontoons or floats may be set and held on any curve desired.

The general objects, with minor objects and functions, which will be obvious from the construction and functions of my invention, are attained by means of the construction hereinafter set forth and claimed.

The accompanying drawings illustrate my invention.

Figure 1 is a plan view, and Fig. 2 a side elevation, of a line of conduit extending from a dredge-boat to the shore. Fig. 3 is a section across the conduit between the pontoons. Fig. 4 is a plan view of ends of two adjoin-

ing pontoons, showing the connection between them. Figs. 5 and 6 are plan views showing modified forms of holding means. Fig. 7 is an edge view of the connections between the pontoons, on an enlarged scale.

Similar letters of reference indicate corresponding parts in all the figures where they occur.

Y is a portion of the dredge-boat, and Z is the shore or reclaimed ground on which the soil is to be deposited.

A is the conduit or discharge-pipe, which may be of any required size and construction. It is formed after the usual manner in sections A' A', which rest upon pontoons or floats, and provided with either flexible connections A² or joints A³ between the said sections. I prefer to have a flexible section at the union of parts nearest the boat and one at the point nearest the shore, while the intermediate connections may be of any character desired. As shown in the drawings, and as forming the construction and arrangement which I prefer to use, two shorter pontoons are used nearest the shore or embankment, and the first joint, which occurs between the two short pontoons, is formed by means of a short section of flexible pipe, and the connection between the second short ponton and the first long ponton is formed by means of a universal joint.

The support for the sections of pipe upon the pontoons is formed by means of troughs or jackets B B, which partially surround the conduit and lie snug up under and around it. These troughs may be provided with braces or stays b b upon the sides, and are bolted to the pontoons. These troughs or jackets may be made to cover more or less of the circumferential area of the pipe, and may be made either of wood or metal, and the details of construction may be varied according to the character of the material and the demands of the particular situation. With this snug rest for the sections of pipe over the pontoons there will be little or no chafing or movement of the pipe upon the pontoons and no chance for sagging or breaking in the lengths.

Between the pontoons the supports or rests C C are provided, which serve not only to

connect the pontoons in a manner to relieve strain upon the pipe but also support the pipe-connections between the sections resting in the troughs or jackets. The rests or supports C C are pivoted together as shown at c' to permit any desired movement of the pontoons to cause them to lie in curves, as well as to permit the swaying and bending of the line, which is often occasioned by winds or rough water. These swiveled supports are rigidly attached to the pontoons and have their pivot directly under the center of the joint or flexible section of the pipe, so that the supports will always lie directly under, or at least tangent to, the curve or bend of the pipe.

When it is desired to hold the pontoons rigid, I employ locking-bars $c^2 c^2$, which are pivoted to one support and may be fastened in any convenient manner to the other, as by projections and pins, as shown in Fig. 6, or by pins alone, as shown in Fig. 4. By means of the holes and pins in the bars they may be caused to swing from either extension, and may also be made of unequal length, so as to give some curve or angle to the relative position of the pontoons; but to produce the best effect I place the stays or bars upon the pontoons themselves, as shown in Fig. 5, extending from ponton to ponton, providing them with a series of holes, through any one of which a pin may be inserted to hold them to the deck of the ponton. By the use of these long bars I am better enabled to set the pontoons on a curve by lengthening the distance between them on one side of the support and shortening it on the other, and the pontoons will be held rigidly at whatever curve they are thus set, or by adjusting them to the same length on both sides the pontoons will be held in a straight line.

When one pin only is placed in the bars $c^2 c^2$ at each end, and the pontoons are held at equal distances apart on both sides, a certain

amount of play will be allowed to the pontoons.

The connections or extensions of the pontoons beneath the pipe-joints may be made to conform to the form of joint or connection used. With the universal joint these parts will be bowed, as shown at the middle joint of Fig. 2, and with the flexible sections they will be nearly or quite straight.

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

1. A ponton for dredger-conduits, provided with a trough or jacket, in which the conduit lies and by which it is supported and braced at bottom and up the sides.

2. A ponton for dredger-conduits, provided with a trough or jacket extending continuously its entire length, in which the conduit rests and by which it is supported and braced at bottom and up the sides, as set forth.

3. A ponton for dredger-conduits, having a jacket or trough for receiving the conduit, and an extended support at the ends for sustaining the connections of the conduit-sections, as set forth.

4. The combination of two or more pontoons provided with end supports or extensions, as C C, pivoted together, as set forth.

5. The combination of two or more pontoons having the end extensions or supports pivoted together and provided with locking-bars, as set forth.

6. The combination of two or more pontoons having end extensions pivoted together for supporting the intermediate sections of pipe, and adjustable locking-bars for holding the pontoons in the manner described.

In testimony whereof I affix my signature in presence of two witnesses.

WM. P. HUMPHREYS.

Witnesses:

I. N. KALB,

C. G. BUHRMAN.