

(No Model.)

2 Sheets—Sheet 1.

A. FAIRCHILD, Dec'd.

B. D. FAIRCHILD, Administrator.

FLOATING SUPPORT FOR DRILLING DEVICES.

No. 496,729.

Patented May 2, 1902.

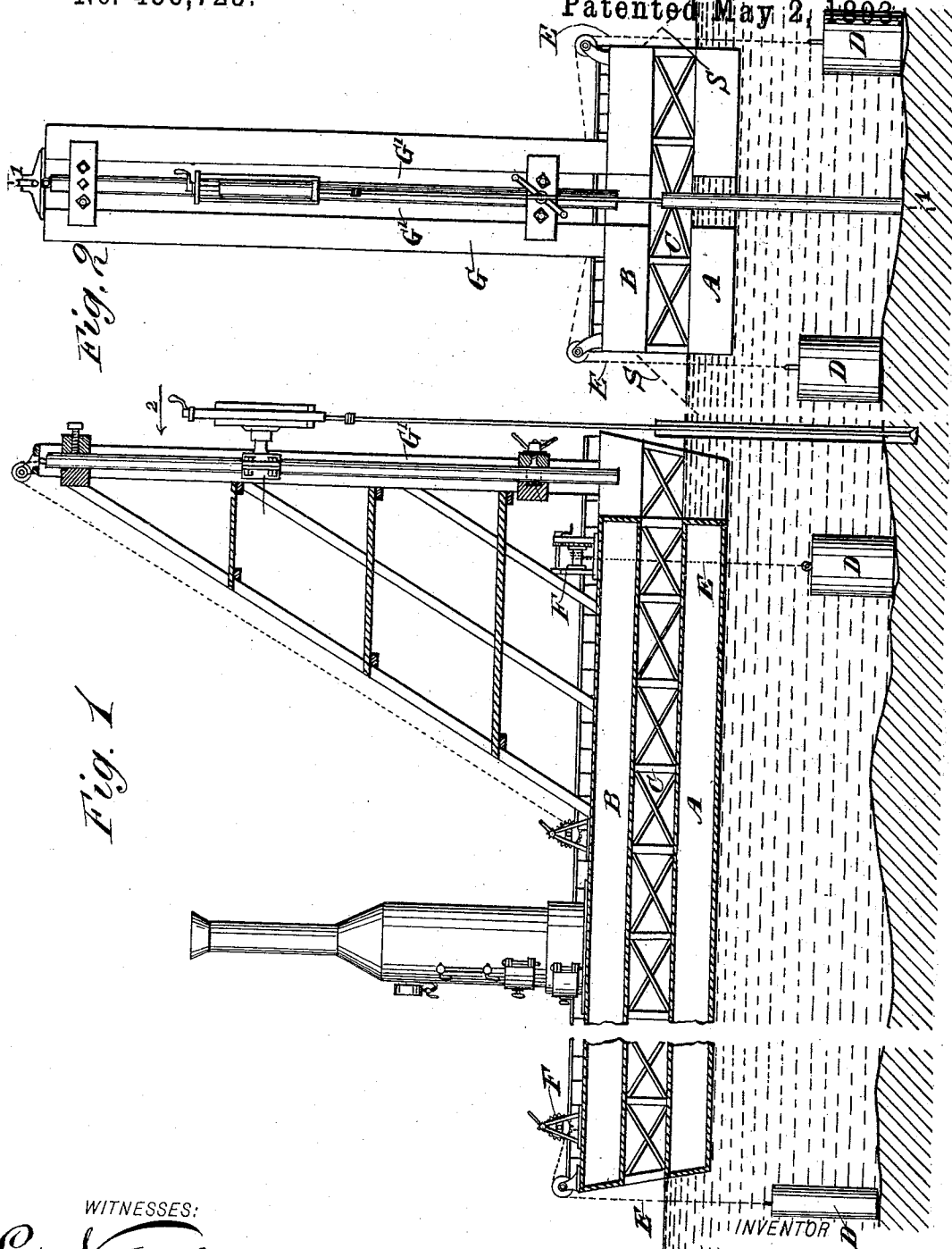


Fig. 1

Fig. 2

WITNESSES:

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BY
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ATTORNEYS.

(No Model.)

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FLOATING SUPPORT FOR DRILLING DEVICES.

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Fig. 3

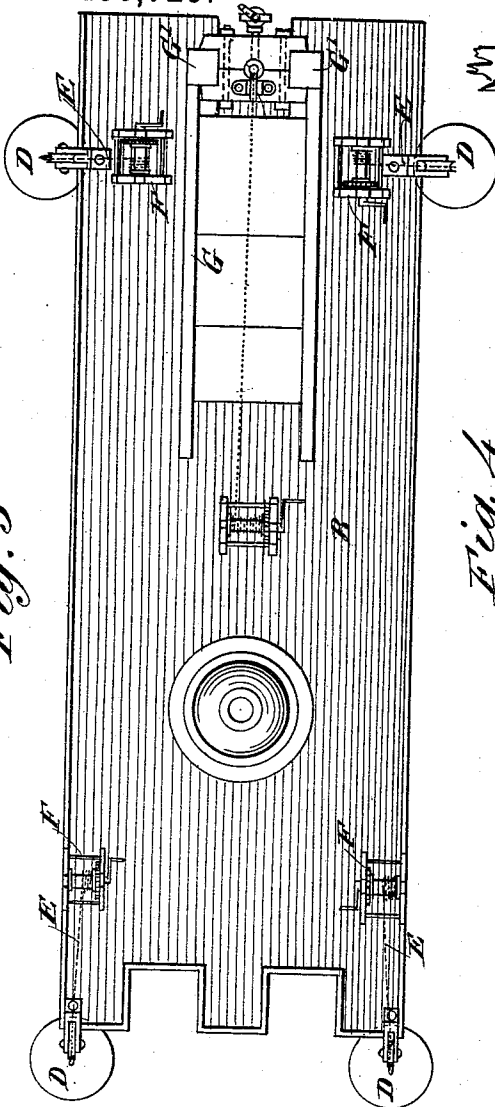
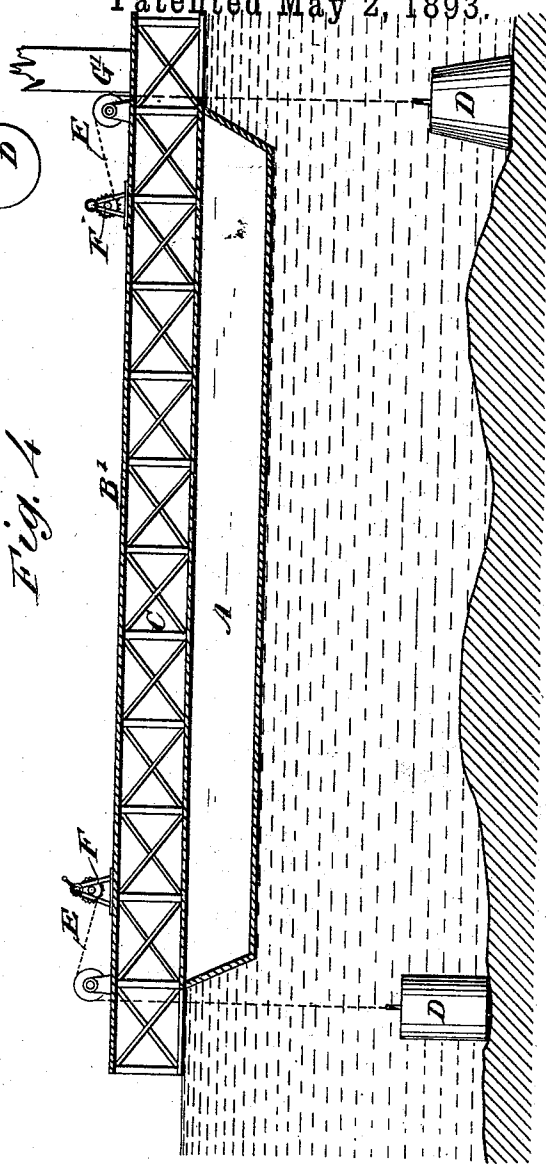


Fig. 4



WITNESSES:

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UNITED STATES PATENT OFFICE.

ADONIRAM FAIRCHILD, OF NEW YORK, N. Y.; BENJAMIN D. FAIRCHILD
ADMINISTRATOR OF SAID ADONIRAM FAIRCHILD, DECEASED.

FLOATING SUPPORT FOR DRILLING DEVICES.

SPECIFICATION forming part of Letters Patent No. 496,729, dated May 2, 1893.

Application filed August 19, 1892. Serial No. 443,539. (No model.)

To all whom it may concern:

Be it known that I, ADONIRAM FAIRCHILD, of New York, in the county and State of New York, have invented a new and useful Floating Support for a Drilling Device, of which the following is a full, clear, and exact description.

This invention relates to improved means for supporting drilling apparatus used for drilling holes in rock bottoms of harbors or streams, that are to be deepened by blasting the rock and subsequently removing the debris. Where charge holes for blasting or otherwise shattering rocks at the bottom of a body of water, are to be produced from the surface of the water the operation is often rendered difficult, as the floating support for the drilling apparatus is subjected to the vertical fluctuation of water level, due to swells or wave force.

The object of this invention, is to provide a simple and practical means to neutralize the lifting force of wave action, on a floating support for the drilling apparatus used to perforate the rock bottom of a harbor or other water body that is to be deepened.

To this end my invention consists in the novel construction and combination of parts, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view in section of an improved float, and a drilling apparatus on it in position for use, the plant entire being held from vertical movement, by novel means. Fig. 2 is a front end view of floats shown in Fig. 1, and drilling mechanism, said floats taken opposite the arrow 2 in Fig. 1. Fig. 3 is a plan view of parts shown in Figs. 1 and 2. Fig. 4 is a side view in section, of a modified form of the float.

In Figs. 1 and 2, A represents a floating structure that is preferably hollow and water tight, having its bottom wall and deck held parallel and sufficiently separated by side and end walls, but may be made of timber without an air space. The float A, is connected to a duplicate float B, by intervening timber work C, that is suitably framed to afford strength, this truss frame being secured upon the up-

per side of A, and lower side of B, so that the latter named float will be held in place directly above and separated a proper distance from the float A.

There are any desired number (preferably four) ballast weights D, furnished for the floats A, B, which in service are located on the bottom of the water way that is to be operated upon by drilling, and each weight is connected with a chain or rope E, to a separate windlass F located near corners of the upper float B.

Upon the float B, a derrick frame G, is erected having two vertical guide ways G', as a portion of the same, said guideways being sustained above a well hole formed in one end of the joined floats A, B, and on said frame the drilling mechanism shown is supported, no claim for novelty being made for the latter.

In service, when the drilling plant is to be used where there is a vertical movement of the water, due to wave action, the ballast weights D, are dropped in alignment with the sides of the floats A, B, into the water and allowed to rest upon the bottom. The flexible connections E, are drawn taut by rotation of the windlasses F, which action may be continued if desired until the truss frame C is immersed also and the bottom of the upper float B, slightly engages the water surface. Guy ropes S, are led from the sides of the upper float laterally and secured to stable objects or to anchors (not shown) so as to prevent a lateral motion of the floating structure. The drill is now adjusted for action, and made to rotatably engage rock at the bottom of the water of floatage, and it will be seen that the waves which produce a vertical swell of the water body, will pass through the truss frame F, and not affect the stability of the upper float B, whereon the drilling mechanism is sustained, so that a vertical churning action of the drill is prevented.

The modification shown in Fig. 4 merely embraces a slight alteration in the floating structure, a level platform of planking B' being substituted for the hollow float B, the operation being the same in regard to neutralizing wave action as the waves will pass over the submerged float A, through the timber frame F as before stated, the platform which may be drawn down near to the water sur-

face being unaffected by vertical swells of the latter.

When the operation of drilling one hole has been completed, the position of the floating structure as an entirety can be readily altered, and secured at a different point for a repetition of the drilling operation.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with a hollow float, a truss frame on the float, and a second float supported on the truss frame, of a set of ballast weights, means for adjustably connecting

the weights and floats, and a drilling mechanism on the top float, substantially as described. 15

2. The combination with two floats, a truss frame between the floats, and a derrick frame on the upper float, of ballast weights, flexible connections between the weights and floats, and devices on the top float adapted to draw on said flexible connections, substantially as described. 20

ADONIRAM FAIRCHILD.

Witnesses:

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E. M. CLARK.