

(No Model.)

S. HAGEN.

FOOT BOAT.

No. 319,242.

Patented June 2, 1885.

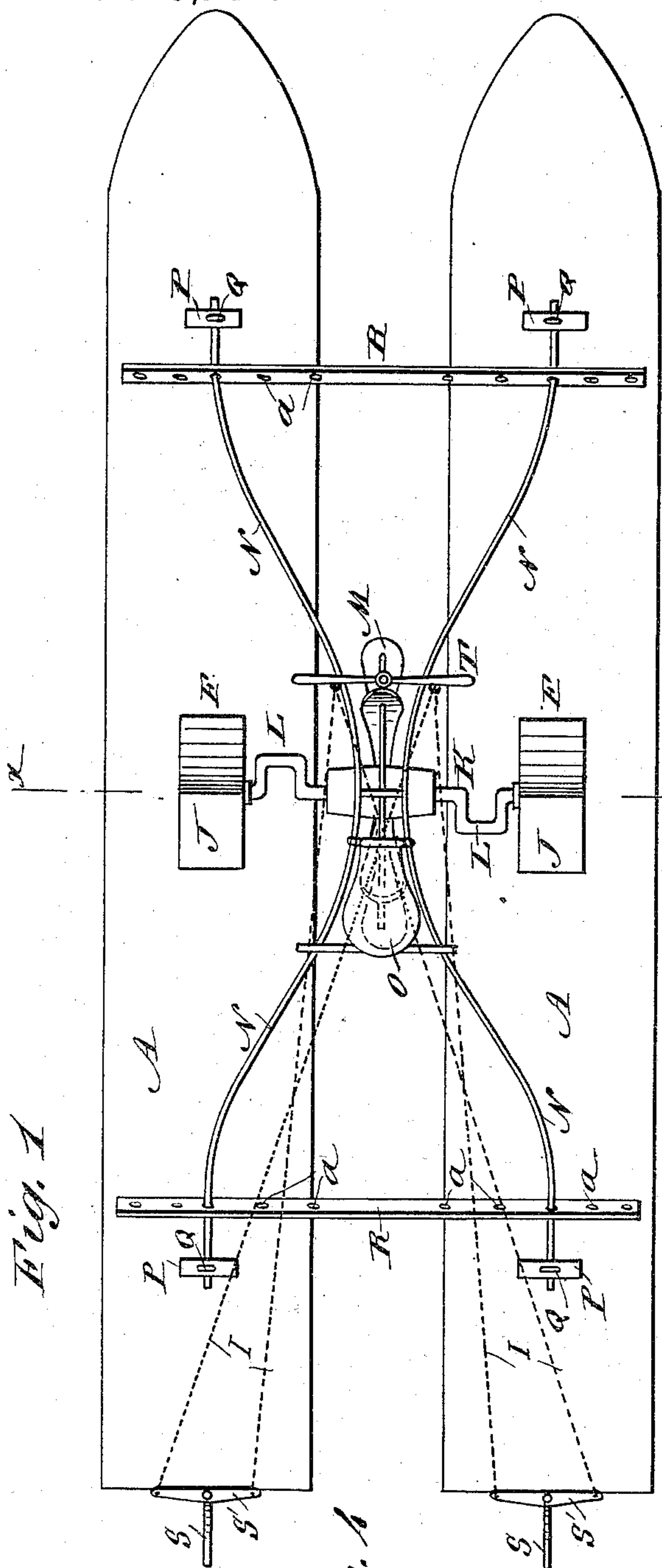
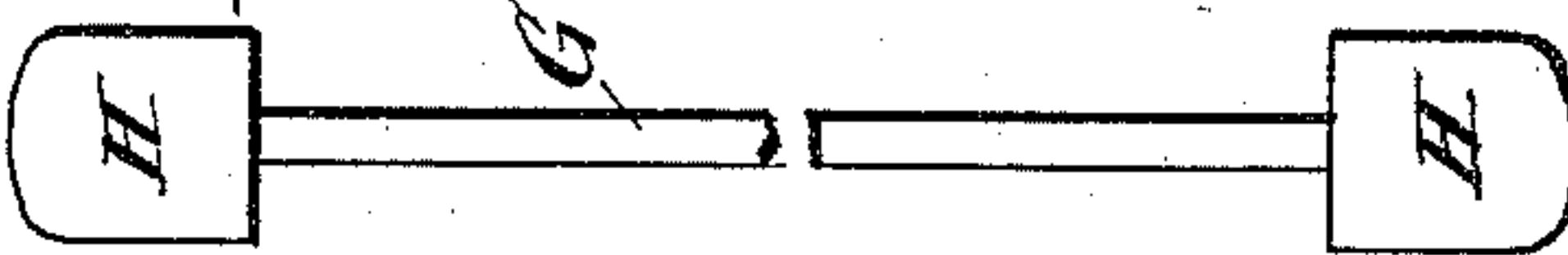


Fig. 1

WITNESSES:

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Fig. 1



BY

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Fig. 3

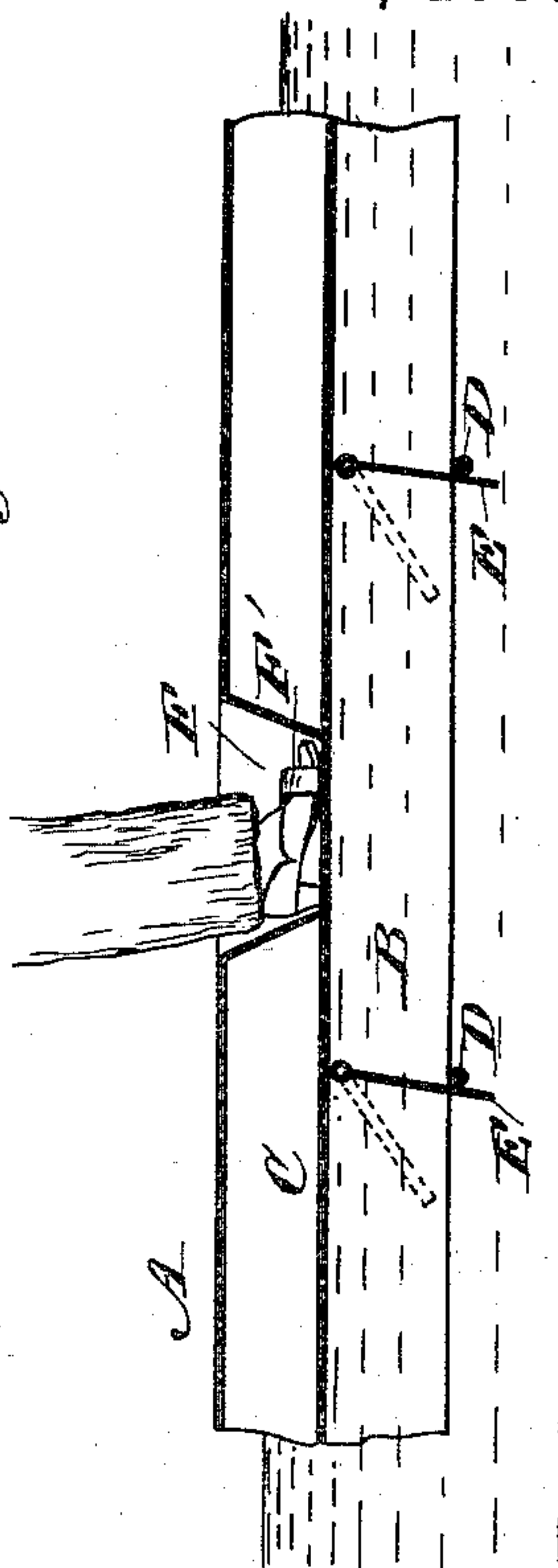
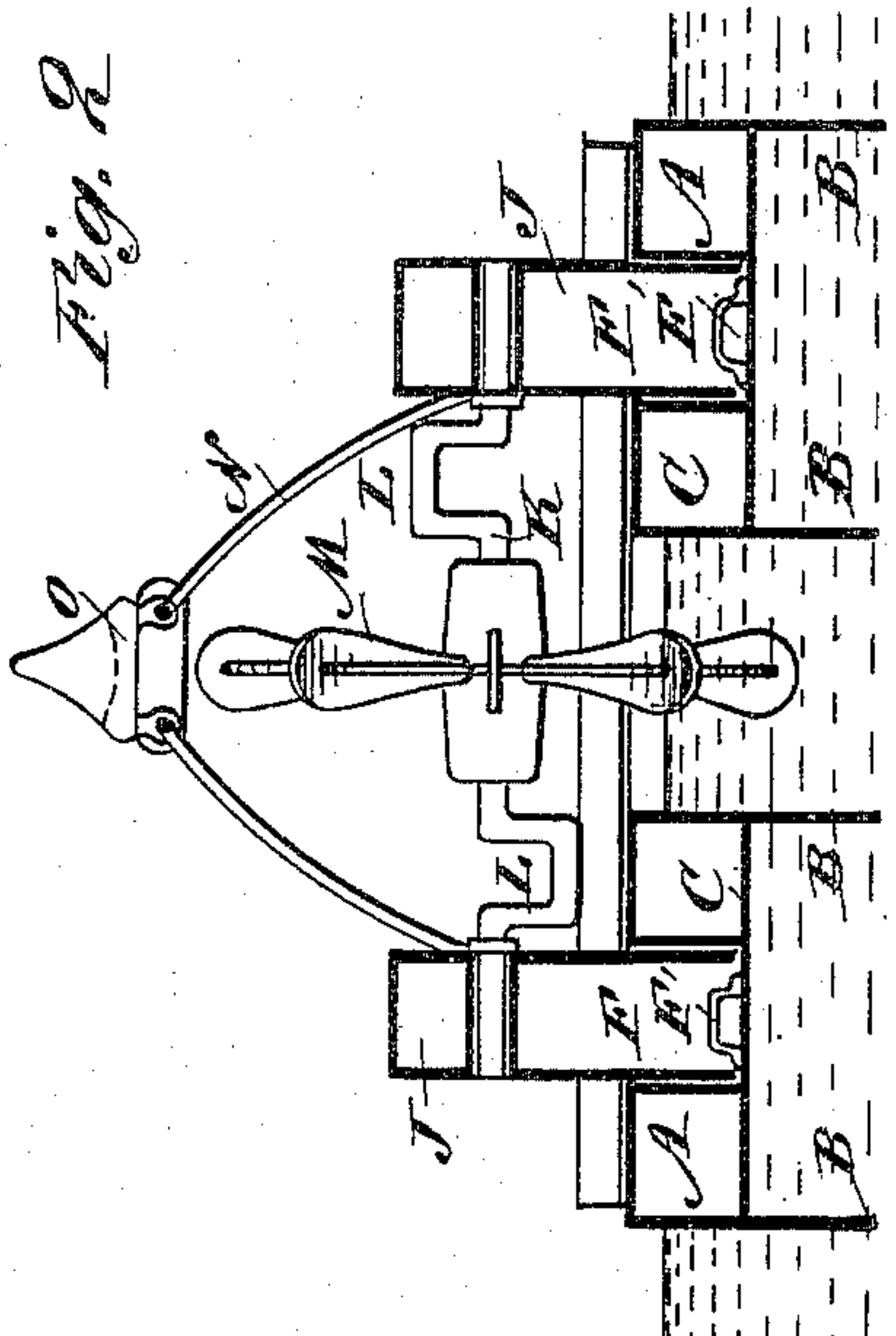


Fig. 2



UNITED STATES PATENT OFFICE.

SIVERT HAGEN, OF NEW BRIGHTON, NEW YORK.

FOOT-BOAT.

SPECIFICATION forming part of Letters Patent No. 319,242, dated June 2, 1885.

Application filed February 6, 1885. (No model.)

To all whom it may concern:

Be it known that I, SIVERT HAGEN, of New Brighton, Richmond county, New York, have invented a new and Improved Foot-Boat, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved foot-boat, which can be strapped on the foot in the same manner as a shoe, and can be used to travel on the water, and of which foot-boats two can be united and provided with a paddle-wheel to form a catamaran-velocipede.

The invention consists in the construction, arrangement, and combination of parts and details, as will be fully set forth hereinafter, and pointed out in the claims.

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

Figure 1 shows two of my improved foot-boats united to form a catamaran-velocipede. Fig. 2 is a cross-sectional elevation of the same on the line $x x$, Fig. 1. Fig. 3 is a longitudinal sectional elevation of one foot-boat, showing the receptacle for the foot. Fig. 4 is a longitudinal view of the rod for propelling the foot-boat.

Each foot-boat consists of a water-tight long box, A, tapered at the front, and having its sides B extended below the bottom C, the sides B being united at the bottom edges by cross-rods D, above which wings E or blades are pivoted between the sides B at the bottom of the boat, the said blades or wings being adapted to swing toward the rear and against the under side of the bottom of the boat. In the deck or top of each boat a recess, F, is formed for receiving the foot, and on the bottom of the recesses straps form loops F' for receiving the foot. Each foot is placed in the recess F of one boat, and the person uses a pole or rod, G, having a cork ball, H, or a hollow sheet-metal ball on each end. One end of the rod is placed on the surface of the water, and, being buoyant, offers resistance, and the boat can be propelled by pushing on the rod or pole.

To construct a catamaran-velocipede, a frame, J, is placed in each recess F, and in the said

frames the ends of a shaft, K, are journaled, which is provided with the two opposite cranks L, between which a paddle-wheel, M, of any desired suitable construction, is mounted on the crank-shaft. Two curved rods or bars, N, are united at their middles by a seat, O, and the ends of the rods are passed into pockets P on the tops of the boats A at the ends, and the ends of the rods are held in the pockets P by binding-screws Q. The rods or bars N are united near the ends by cross-bars R, having a series of apertures, a , through which the rods or bars N are passed. The boats can thus be adjusted a greater or less distance from each other by passing the rods or bars through apertures a greater or less distances from the ends of the bars R.

On the stern end of each boat A a rudder, S, is pivoted, each having a cross-piece, S', connected by chains, wires, or cords I with the steering-lever T, pivoted in front of the seat O. The person occupies the seat O, and by means of the cranks L revolves the paddle-wheel M and propels the catamaran.

The boats A may be made of wood or metal, and as their sides project below the bottom they are provided with double keels, which prevent them from tilting.

If desired, bars may project from the bottom of the boat, against which bars the blades or wings E can rest when swung toward the front, the rods D being dispensed with. When the boats move forward, the wings move upward and offer no resistance, but when a back-pressure is exerted on one boat by one foot the wings of the said boat swing against the rods D and offer sufficient resistance to permit pushing the other boat and foot forward.

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

1. In a combined foot-boat and catamaran, the foot-boats having foot-recesses, pockets near the opposite ends of the said foot-boats, and set-screws, the removable frames fitting in said foot recesses, the operating mechanism secured thereto, and the removable longitudinal rods united at or near their centers by a seat-frame, and having their ends secured in the pockets by the set-screws.

2. In a combined catamaran and foot-boat, the combination, with the foot-boats, a remov-

able operating mechanism connecting them, of the longitudinal bars connected at or near their centers by a seat-frame and removably connected at their ends to the opposite ends of the foot-boats, and bars connecting said longitudinal rods near their ends, said bars having a series of perforations, through which said rods may be passed for adjusting the distance between said boats, substantially as set forth.

3. The combined foot-boat and catamaran consisting in the foot-boats A A, having rudders S, foot-recesses F, and pockets P at opposite ends of the boats, provided with set-

screws Q, the removable frames J, fitting within the foot recesses, crank-axle K L, connecting said frames and paddle-wheel on said axle, the longitudinal rods N N, seat-frame O, and steering-lever T at the central parts of said rods, connecting cords or chains I between the rudders and steering-lever, and the perforated bars R at opposite ends of the rods N, for adjusting the distance between the boats, substantially as set forth.

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Witnesses:

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