

No. 612,920.

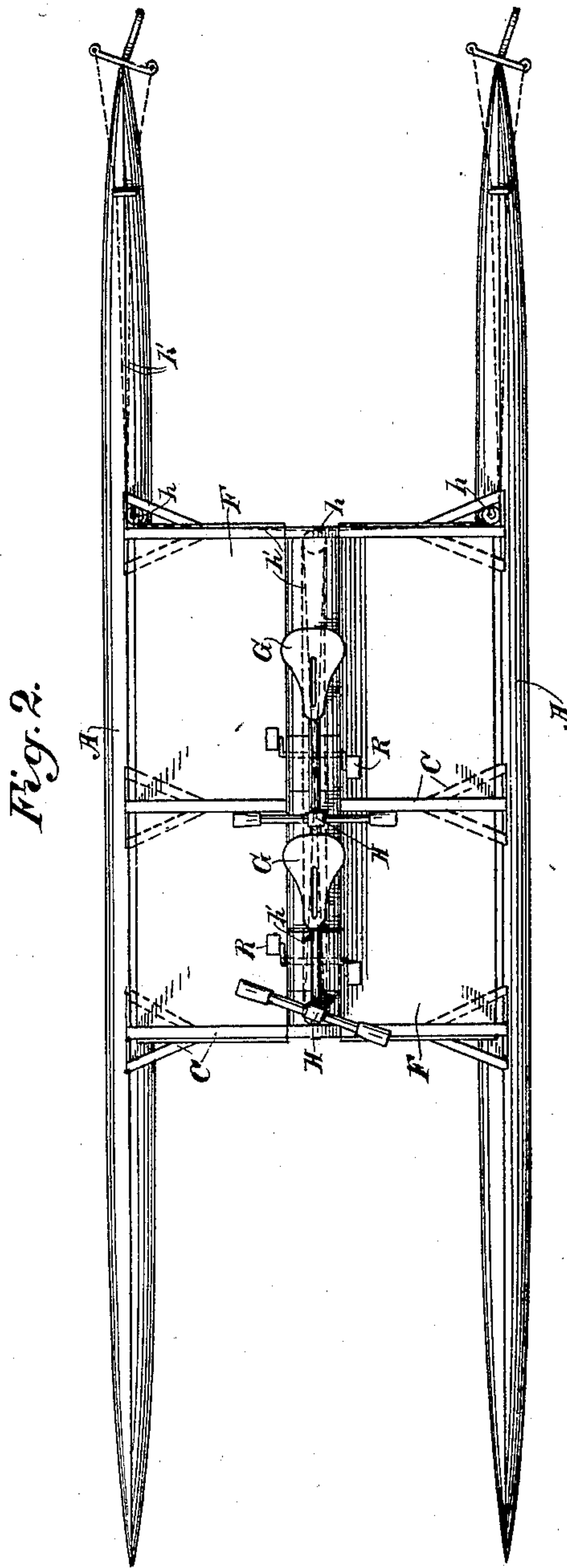
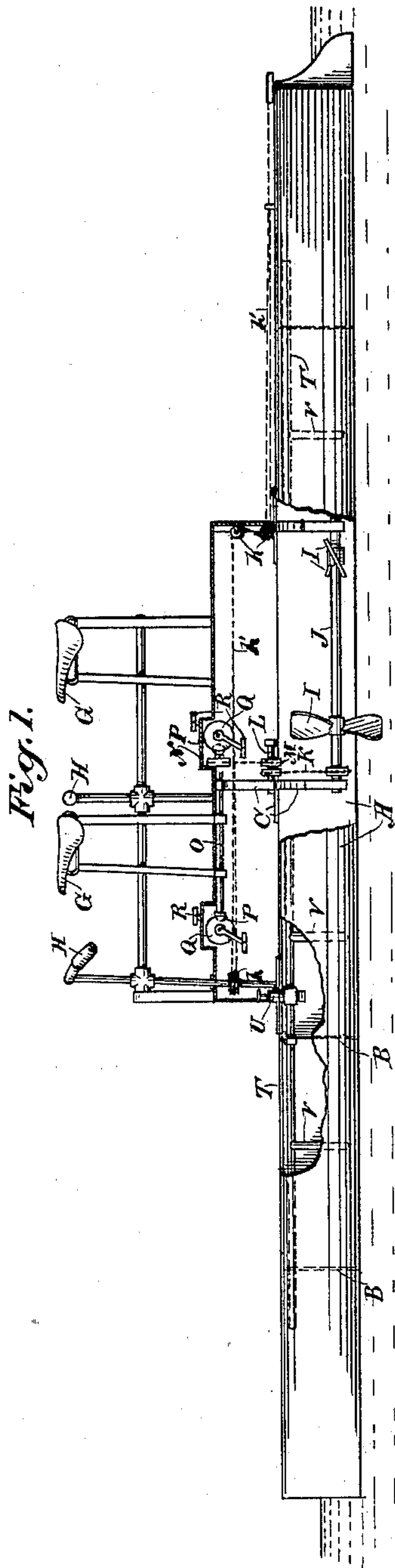
Patented Oct. 25, 1898.

F. O. WINQUIST & E. OLSSON.
WATER CYCLE.

(Application filed Apr. 8, 1898.)

(No Model.)

2 Sheets—Sheet 1.



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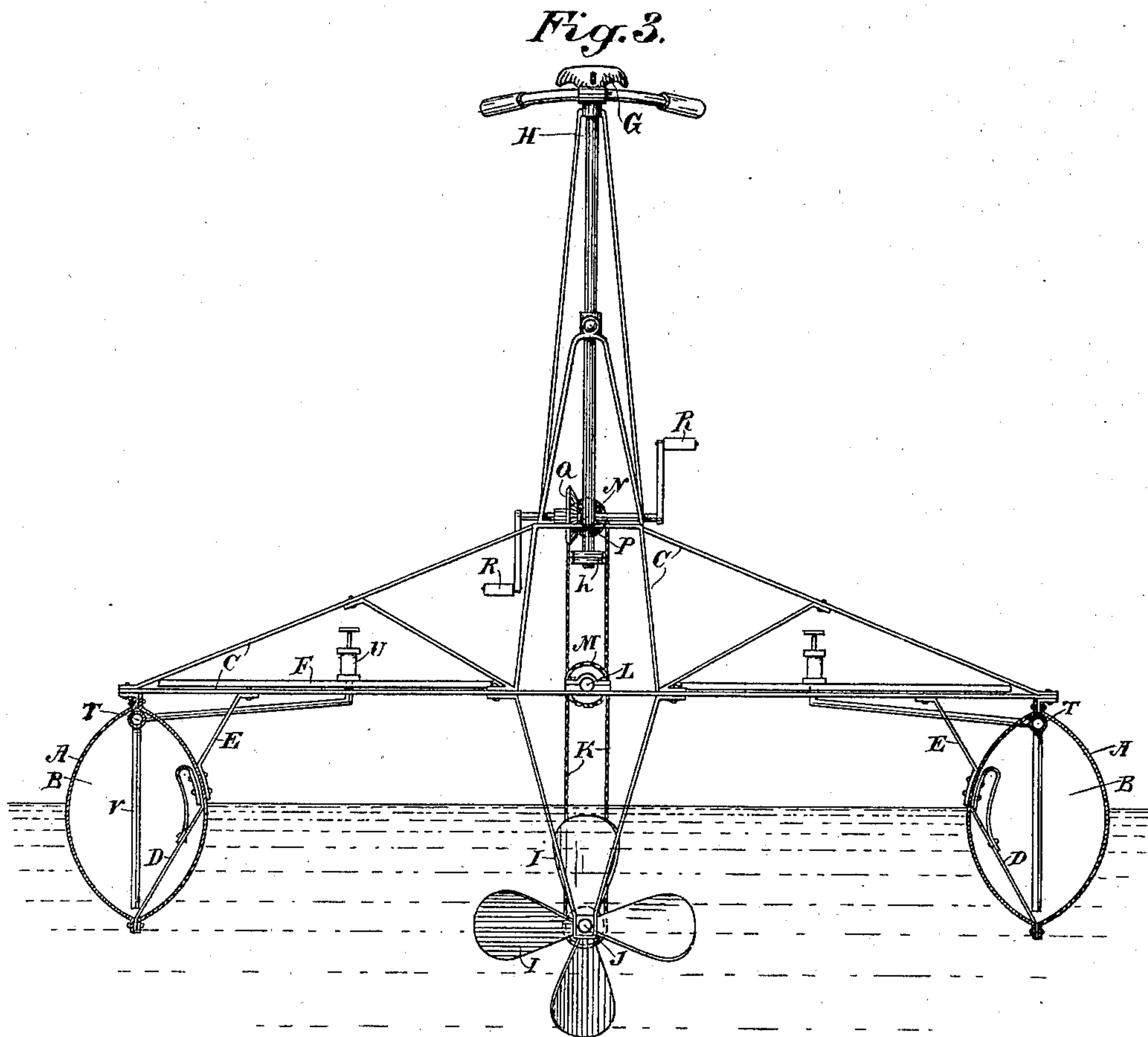


Fig. 4.

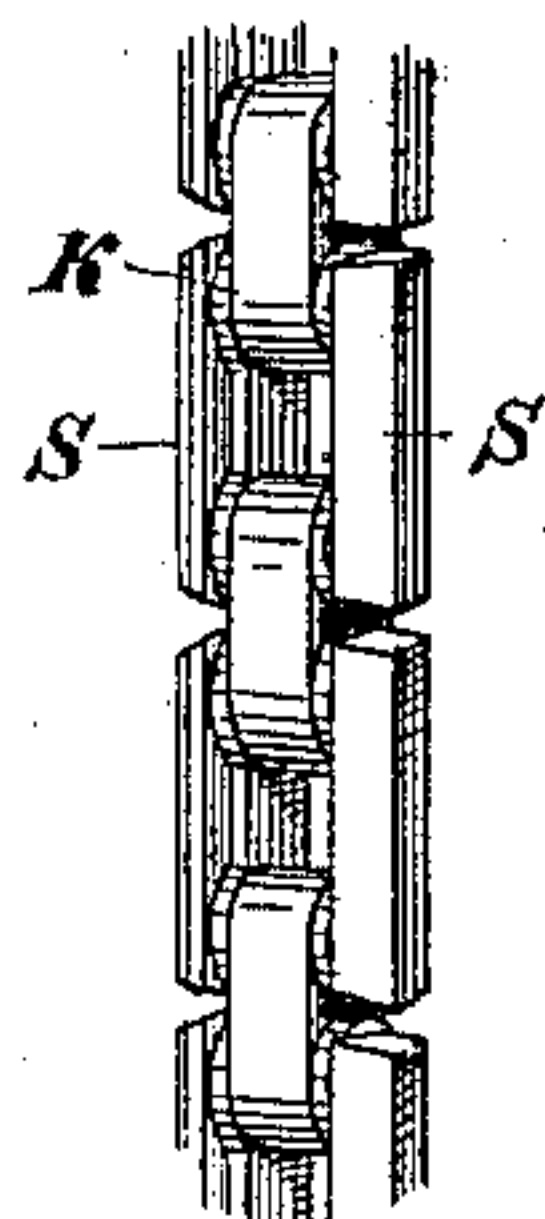
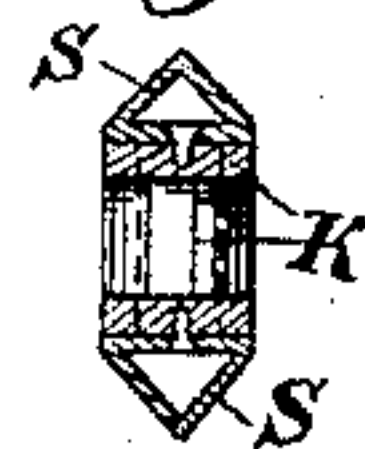


Fig. 5.



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UNITED STATES PATENT OFFICE.

FRANZ O. WINQUIST AND EMIL OLSSON, OF OAKLAND, CALIFORNIA.

WATER-CYCLE.

SPECIFICATION forming part of Letters Patent No. 612,920, dated October 25, 1898.

Application filed April 8, 1898. Serial No. 676,909. (No model.)

To all whom it may concern:

Be it known that we, FRANZ O. WINQUIST and EMIL OLSSON, citizens of the United States, residing at Oakland, county of Alameda, State of California, have invented an Improvement in Water-Cycles; and we hereby declare the following to be a full, clear, and exact description of the same.

Our invention relates to improvements in apparatus for traveling upon the water and employing the propelling power of the rider.

It consists in the parts and the constructions and combinations of parts hereinafter described and claimed.

Figure 1 is a side elevation of one of the cycles, with a section showing the seats and propelling apparatus. Fig. 2 is a plan view. Fig. 3 is an end view, the floats being shown in sections. Fig. 4 is a detail view of the propeller-chain. Fig. 5 is a lateral section through the same.

The floats A A are made of thin sheet metal or other like material. We prefer to make these floats of aluminium, having proper ribs or braces B, which also may be so constructed as to form independent water-tight compartments. The shape of these floats is preferably oval in transverse section, with the longest diameter of the oval in a vertical position. This oval shape will be of the greatest area along the central portion of the floats, and it will be gradually made thinner in a horizontal direction until the front and rear ends of the floats are sufficiently narrow to give the proper entrance to and exit from the water. These floats are united by transverse timbers or framework C and may be situated at any suitable or desired distance apart sufficient to give steadiness to the apparatus when in a seaway.

In order to strengthen and steady the floats and prevent their turning over sidewise, we have shown brace-rods D extending from the bottom up to the inner side of each of the floats and in line therewith, the exterior rods E extending up to the transverse framework which unites the two floats. This makes a direct and practically continuous connection from the bottom or keel of each float up to the framework, thus acting as a brace to prevent the floats from turning over and without bringing so much strain upon them as

would break the thin metal of which they are composed.

Above the transverse bars or connections by which the floats are united is mounted a platform F, and upon this platform are suitable supports carrying the seats or saddles G, which are fitted for the riders, and each rider has a steering-handle H, fixed to the top of a steering-post which extends downward and is connected by transverse yokes or pulleys h with the tiller-lines h', by which the boats are steered. Each of these subdivided lines connects with one of the sides of the rudder-head or tiller-yokes, and as the two pairs of subdivided lines connect with the opposite ends of the rudder-head or yokes it will be seen that when the tiller-ropes upon one side are drawn upon by turning the steering-handle both the rudders will be turned in the same direction. When the steering-handles are turned in the opposite direction, the reverse operation takes place.

I I are propellers fixed upon a horizontal shaft J, which is journaled longitudinally and intermediate between the hulls of the two floats. We have here shown these propellers each composed of two blades projecting upon opposite sides of the shaft, and the two propellers are set at a considerable distance apart fore and aft and stand at right angles with each other, so that each propeller will have the opportunity to work in solid water and not be interfered with by the churning or action of the other propeller. Upon the propeller-shaft is fixed a sprocket-wheel, and a chain K extends from this up to a sprocket-wheel upon a counter-shaft L. Upon this counter-shaft is another sprocket-wheel M, and from this a chain extends upward around a sprocket-wheel N upon a shaft O, which is also parallel with the propeller-shaft and intermediate shaft L before described. Upon this shaft O are fixed pinions P, and these are engaged by bevel-gears Q, fixed upon the pedal-shafts, so that by the rider pressing upon the pedals R and rotating the pedal-shafts power will be communicated through the gearing to drive the propellers.

As the sprocket-chains from the intermediate to the propeller shaft have to enter the water, we have shown a construction to reduce as much as possible the resistance which such

chains would ordinarily present when the boat is moving through the water. This consists in making the front of each chain-link with a taper or bevel coming to a comparatively thin edge, so that it presents a sort of cut-water, as shown at S, and serves to divide the water and lessen the resistance of the chain passing through it.

T are pipes extending longitudinally through the upper part of the floats, with pipes or openings connecting with each compartment. By means of a pump U air may be forced through the pipes into the compartments, and in case of leakage or accident the compartments may be kept clear of water.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In an apparatus of the character described, a pair of floats with a uniting-framework by which they are retained in a substantially parallel position, seats, pedal-shafts and steering mechanism mounted upon the framework above the floats, a propeller-shaft journaled longitudinally between the floats having propellers fixed near each end thereof and independent of each other, sprocket wheels and chains through which motion is communicated from the pedal and counter shafts to the propeller-shaft, the chains by which the propeller-shaft is driven having their links formed with a wedge-shaped extension whereby the water is divided by the passage of the links.

2. In an apparatus of the character described, a pair of floats fixed together in substantially parallel position with the intermediate longitudinally-disposed propeller-shaft, propellers fixed thereon, seats fixed upon the connecting-framework above the floats, pedal-shafts and intermediate gear and sprocket wheels and chains whereby motion is transmitted to the propeller-shaft, said chains for

the propeller-shaft having the edges of the links beveled to divide the water as they pass through the same, a steering mechanism comprising vertical steering-posts and handle-bars, tiller-ropes extending rearwardly from and connected with the steering-posts so as to be moved simultaneously, said tiller-ropes being subdivided to form four, one pair of each of which is connected with the corresponding sides of the rudder-heads or tillers whereby the two rudders are turned simultaneously in the same direction and to either side.

3. In an apparatus of the character described, a pair of floats with connecting mechanism, propellers and driving-pedals, said floats being oval in transverse section with their longest diameters vertical, braces extending interiorly from the bottom up to the inner sides above the central line, and other braces connecting therewith exteriorly and extending in line with the inner braces up to the framework which connects the floats, whereby the floats are maintained in an essentially vertical position.

4. In an apparatus of the character described, a pair of metal floats oval in cross-section, a framework by which they are connected in a parallel and separated position, with intermediate propellers, driving and steering mechanism, said floats having interior transverse subdividing-bulkheads and diagonal braces and exterior braces, forming a continuation of the interior braces to the framework.

In witness whereof we have hereunto set our hands.

FRANZ O. WINQUIST.
EMIL OLSSON.

Witnesses:

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C. O. CARLSON.