(No Model.) 2 Sheets—Sheet 1.

J. & C. QUIST.

FOOT PROPELLED BOAT.

No. 596,685. Patented Jan. 4, 1898.

Fig. 1

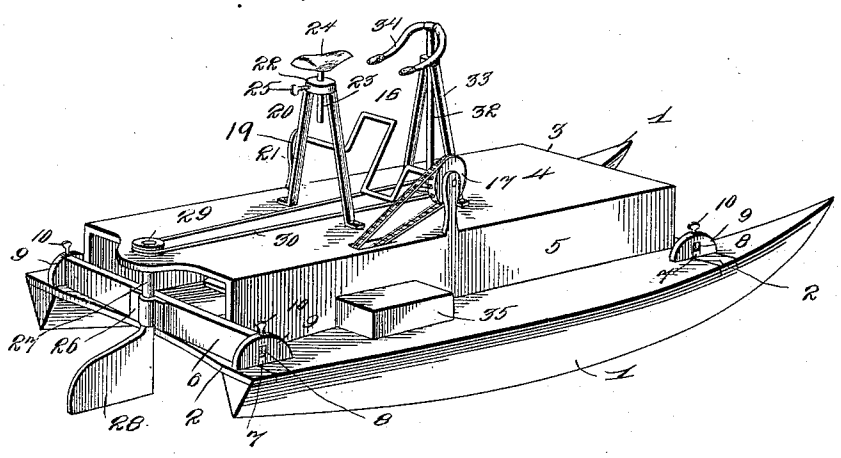


Fig. 2.

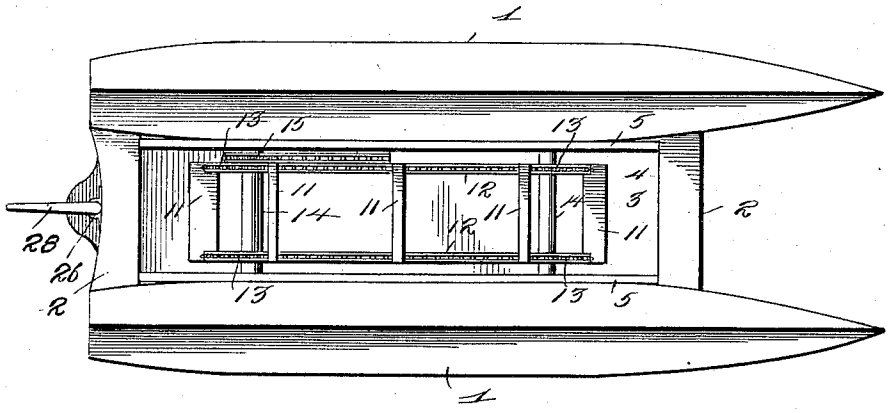
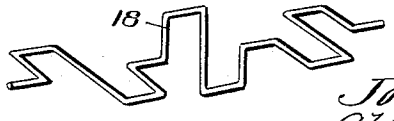


Fig. 6



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(No Model.) 2 Sheets—Sheet 2.

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FOOT PROPELLED BOAT.

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Fig. 3.

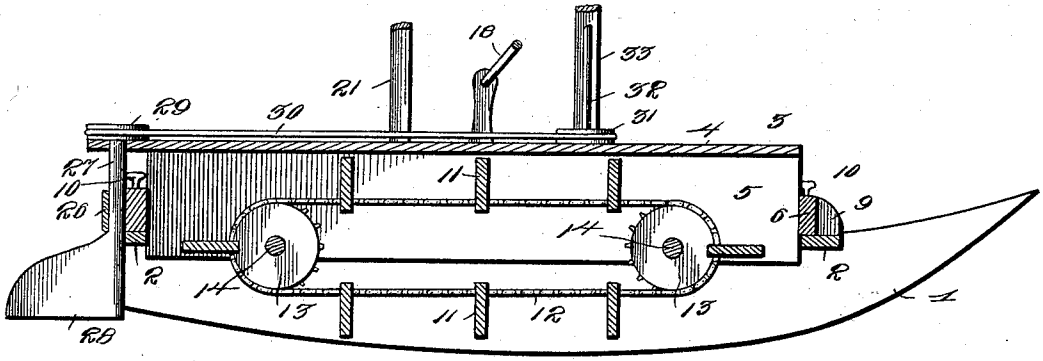


Fig. 4.

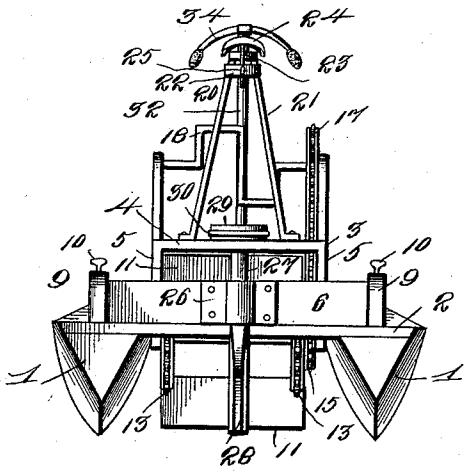
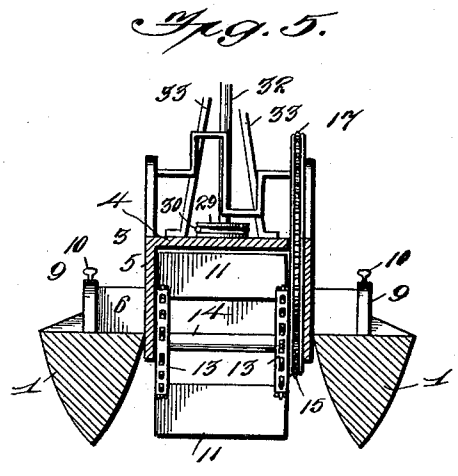


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN QUIST AND CHARLES QUIST, OF MYSTIC, IOWA.

FOOT-PROPELLED BOAT.

SPECIFICATION forming part of Letters Patent No. 596,685, dated January 4, 1898.

Application filed January 27, 1897. Serial No. 620,941. (No model.)

To all whom it may concern:

Be it known that we, JOHN QUIST and CHARLES QUIST, citizens of the United States, residing at Mystic, in the county of Appanoose and State of Iowa, have invented certain new and useful Improvements in Foot-Propelled Boats; and we do hereby 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.

This invention relates to foot-propelled boats; and the object in view is to provide a simple, light, and efficient boat of the character above referred to, in which, in addition to other advantages, the propelling mechanism is made adjustable, so that the depth of the blades or paddles of the propeller may be adjusted for giving the desired resistance and accommodating the propelling mechanism to the condition of the body of water upon which the boat is being used, as well as the weight of any particular rider.

The invention consists in a foot-propelled boat embodying certain novel features and details of construction and arrangement of parts, as hereinafter particularly set forth, illustrated in the drawings, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a foot-propelled boat constructed in accordance with the present invention. Fig. 2 is a bottom plan view thereof. Fig. 3 is a longitudinal section through the same. Fig. 4 is a rear elevation. Fig. 5 is a cross-section through the boat. Fig. 6 is a detail perspective view showing a multiple crank-shaft.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the drawings, 1 1 designates a pair of floats, which may be constructed of any suitable material. The floats may also be of any desired shape and of sufficient length and width to afford the necessary buoyancy for carrying one, two, or more persons. It is preferred to construct these floats substantially V-shaped in cross-section and to give them a slight sheer fore and aft, thus adding to their efficiency in rough water and at the same time enhancing their appearance.

The floats 1 are connected at their rear ends and adjacent to their forward ends by means of suitable cross-bars 2, which rigidly unite the floats and maintain the same at the proper distance apart.

3 designates a housing or covering for closing in the propeller. This housing comprises a horizontal and longitudinally-extending platform 4, which forms the deck of the boat, and depending sides 5, which lie between and abut against the inner sides of the floats 1, the said sides 5, however, being disengaged from the floats in order to admit of the housing 3 being adjusted up and down with relation to the floats. At each end of the housing 3 is a cross-bar 6, which projects at its opposite ends outside of and beyond the sides 5, the said bar 6 having its ends reduced, as indicated at 7, and adjustably fitted in vertical slots 8 in brackets or low standards 9, secured to the floats. Passing through the upper sides of the brackets or standards 9 are headed screws 10, which have a swiveled connection with said brackets or standards and a threaded connection with the reduced ends of the cross-bar 6. This arrangement is duplicated at each end of the housing 3, and by turning said screws 10 the cross-bars 6 may be adjusted up or down, thereby varying the relative height of said housing and the floats.

The propeller comprises a series of blades or paddles 11, which extend transversely between the floats and are connected to a pair of chains 12, spaced a suitable distance apart and running around the sprocket-wheels 13, fast on transverse axles 14, journaled at their ends in the sides 5 of the housing 3. One of the axles 14 is provided at one end with a pulley or wheel 15, over which a band or chain extends upward through the deck or platform 4, passing thence around a pulley or sprocket-wheel 17, fast on the crank-shaft 18, journaled at its ends in bearing-standards 19, secured rigidly to the housing. Thus as the housing is adjusted up and down with relation to the floats the entire propelling mechanism is simultaneously adjusted, and by this means the blades or paddles 11 can be submerged to the proper or desired depth in the water for obtaining the necessary hold on the water or accommodating the boat to the varying con-

ditions of said water. The crank-shaft 18 may be provided with pedals of any suitable construction and is arranged just in advance of the seat-standard. The said standard (indicated at 20) comprises uprights 21, connected at their lower ends to the deck 4 and connected at their upper ends by a disk-shaped headpiece 22, which is provided with a central opening to receive the post 23 of the saddle 24. Thus the saddle may be adjusted up and down for giving the proper height thereto and when brought to the desired position may be held fast by means of the binding-screw 25, passing through the head 23.

Secured to the rear cross-bar 6 is a bearing-sleeve 26, into which the vertical post 27 of the rudder 28 is journaled. The post 27 also passes through an opening in the deck or platform 4 and has fastened upon its upper end above said deck a wheel or pulley 29, from which a band, chain, or other suitable connection 30 extends forward around a similar wheel or pulley 31 on the steering-post or stem 32, which is journaled in a standard 33, extending upward from the deck or platform 4, the said stem or steering-post being provided at its upper end with a handle-bar 34. By turning said handle-bar and the wheel 31, fast on the stem thereof, the wheel 29 may be correspondingly turned for operating the rudder. 35 designates a step arranged at one side of the boat and supported upon one of the floats 1 for enabling the rider to ascend to the deck or platform 4. This step may be moved from the position and placed upon the deck, so as to afford a seat for an additional passenger. If desired, the floats 1 may be placed a greater distance apart and the platform or deck may be correspondingly wider, so as to accommodate a compound crank-axle similar to that shown in Fig. 6. By employing such a crank-shaft two or more riders may sit abreast and use their combined power for propelling the bicycle, a corresponding number of saddles being provided for the purpose.

From the foregoing description it will be seen that the propelling mechanism, together with the housing therefor, may be raised or lowered with relation to the floats for varying the depth of penetration of the blades or paddles, and this may be accomplished by a person standing upon the boat while the same is afloat.

We do not desire to be limited to the exact construction shown and described, as it will be apparent that the number of blades or paddles and the length of the propeller may be varied, and also that other various changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages under the invention.

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

1. In a chain propelling mechanism for boats, the combination with a pair of floats spaced apart and connected, of a vertically-adjustable platform or deck arranged between the sides of the floats, a chain propeller mounted beneath and connected to said platform, and a crank-axle mounted above the platform and operatively connected to said propeller, substantially as described.

2. In a chain propelling mechanism for boats, the combination with spaced and connected floats, of a housing moving up and down between said floats, means for adjusting said housing and propelling mechanism inclosed within and connected to said housing, means located above the housing for imparting motion to the propeller, and a saddle and steering mechanism located on the housing, all arranged for joint operation, substantially as described.

3. The combination with spaced and connected floats, of a platform arranged between the sides of the floats, cross-bars at the ends of said platform having their projecting ends superposed above the floats and movable up and down in slotted brackets or standards, adjusting-screws for raising and lowering said cross-bars, and propelling mechanism mounted on the platform and adjustable therewith, substantially as described.

4. In a chain propelling mechanism for boats, the combination with spaced and connected floats, of a platform arranged between the floats and movable up and down, means for adjusting said platform, a rudder connected to the platform and having a wheel fast on the rudder-post, a handle-bar having a wheel-head on its stem, and a flexible connection between said wheels, substantially as and for the purpose specified.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

JOHN QUIST.
CHAS. QUIST.

Witnesses:
GUST PEARSON,
ED KLINGBERG.