

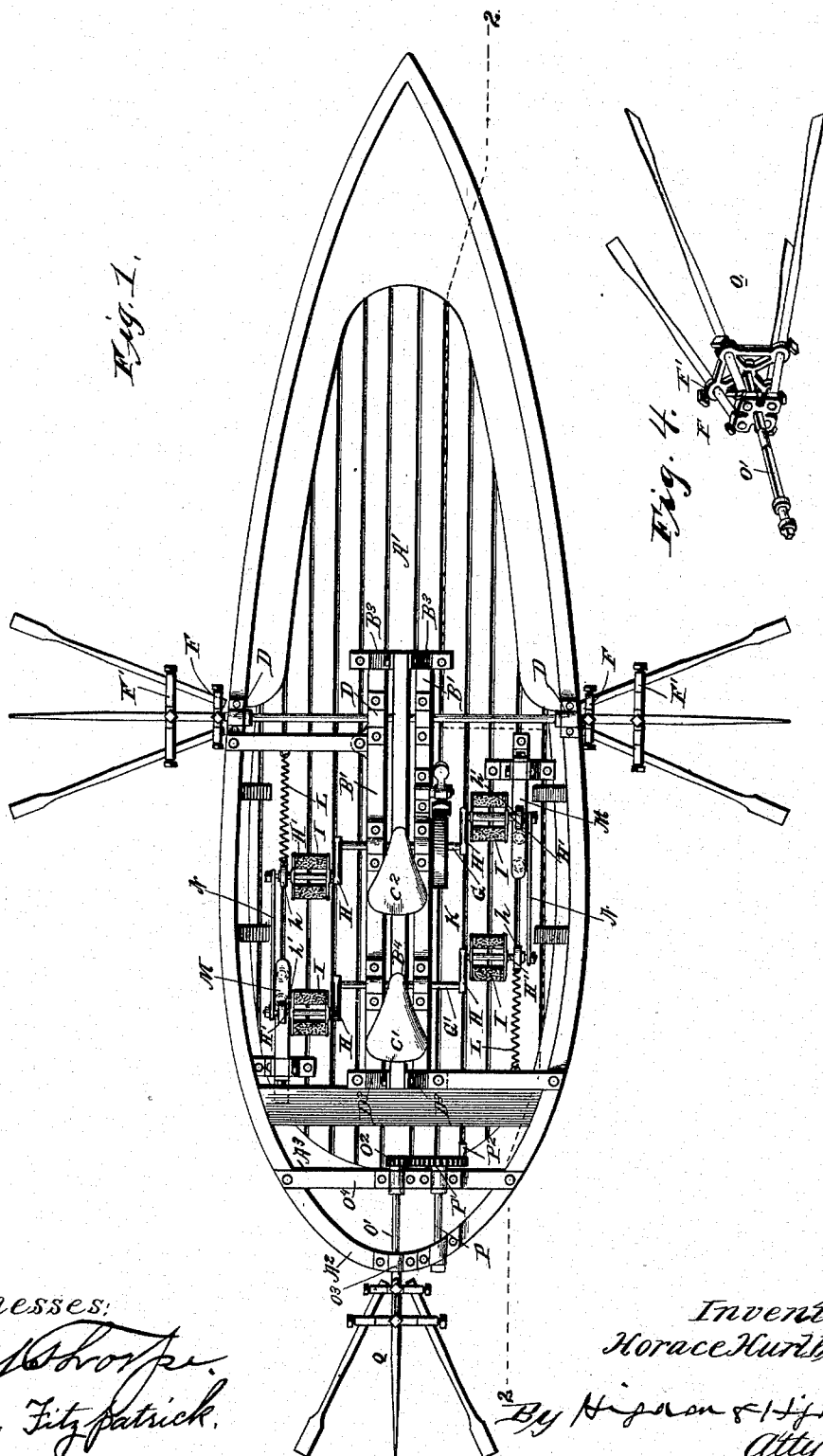
(No Model.)

2 Sheets—Sheet 1.

H. HURLBURT.
OAR PROPELLER FOR BOATS.

No. 518,605.

Patented Apr. 24, 1894.



Witnesses:
[Signature]
M. E. Fitzpatrick.

Inventor:
Horace Hurlburt,
By Higdon & Higdon
Attys.

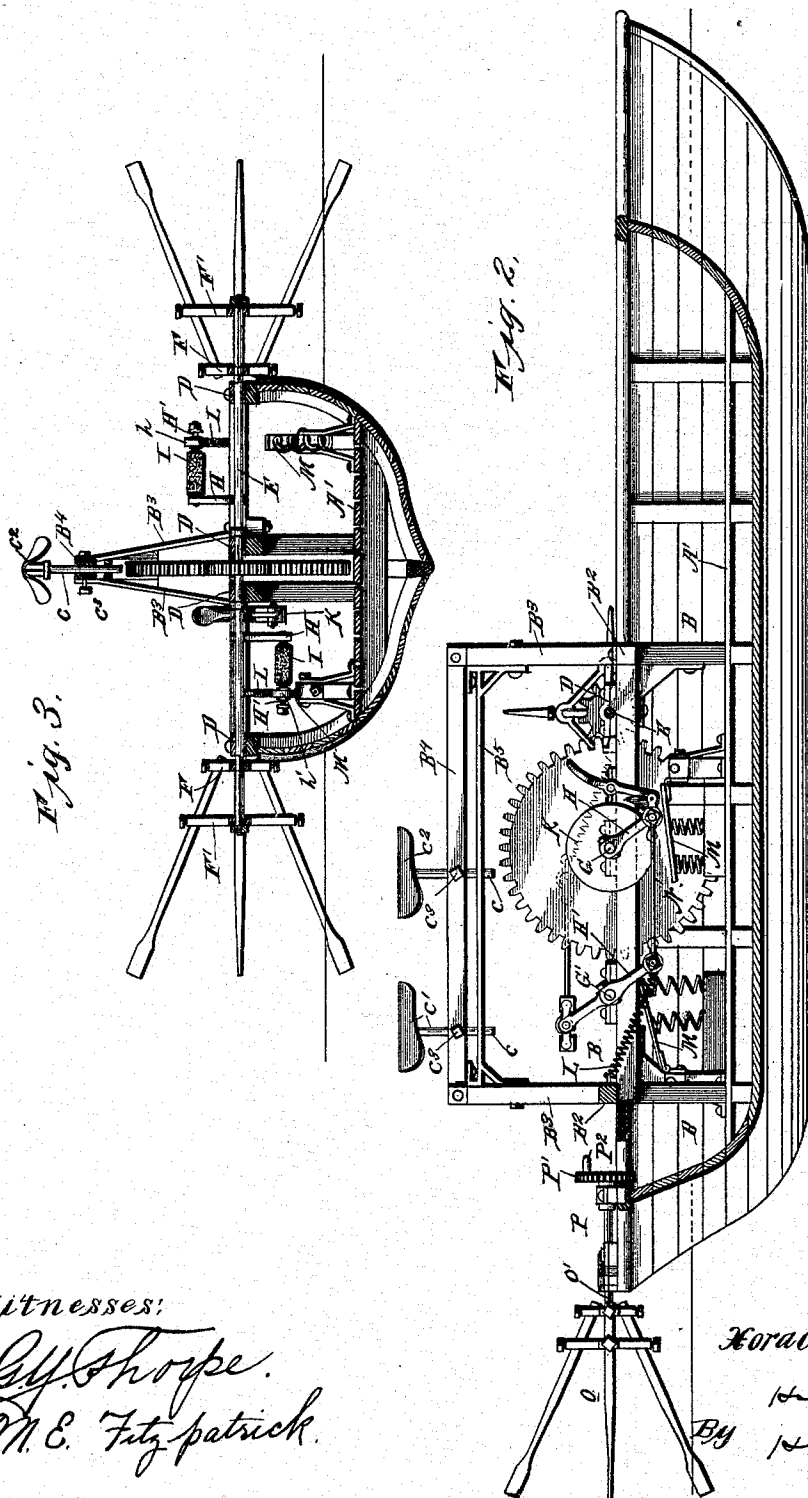
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UNITED STATES PATENT OFFICE.

HORACE HURLBURT, OF LEAVENWORTH, KANSAS.

OAR-PROPELLER FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 518,605, dated April 24, 1894.

Application filed September 3, 1892. Renewed March 19, 1894. Serial No. 504,277. (No model.)

To all whom it may concern:

Be it known that I, HORACE HURLBURT, of Soldiers' Home, Leavenworth, Leavenworth county, Kansas, have invented certain new and useful Improvements in Oar-Propellers for Boats, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to a boat propelling and steering mechanism especially designed to be operated by a number of persons for pleasure parties and for light traffic, and the object of my invention is to provide an effective mechanism which may be operated by paddles at a high rate of speed with but little exertion and which may be quickly handled to back or turn abruptly and within close surroundings.

The certain details of construction herein-after set forth for actuating the oar-wheels and rudder also constitute features of my invention.

In the accompanying drawings, Figure 1 is a plan of a small boat capable of seating a dozen persons comfortably, embodying my invention. Fig. 2 is a longitudinal vertical sectional elevation on the line 2—2 of Fig. 1, and Fig. 3 is a transverse section on the line 3—3 of Fig. 1 looking toward the stern-end of the boat. Fig. 4 is a perspective detail of the oars and the means for securing them to the end of the shaft.

In the drawings, the boat as shown, is of the usual construction, but may be of any preferred form, and has a floor-grating A', secured upon the cross-bars or knees of the boat; this floor-grating extending the full length of the boat. To this floor-grating and also to the cross-bars or knees in the rear portion of the boat, are vertically secured the uprights B; these uprights being disposed in a relatively rectangular position, and each longitudinally aligned pair of uprights connected at their upper ends by a horizontal bar or timber B'; there being thus two of these longitudinal timbers. Horizontal cross-bars B², also connect and brace each pair of transversely aligned uprights at their upper ends.

To the upper ends of the pieces B are se-

cured bracket plates B³ which extend upwardly and are connected at their upper ends by a longitudinal bar B⁴. A bracket plate B⁵ also extends from one of these uprights to the other, parallel with and beneath the bar B⁴, and together with the bar B⁴ are bored to receive vertical spindles C of seats C', C² arranged one forwardly of the other and secured at any suitable elevation by set-screws C³ passing through the bar B⁴. The longitudinal beams B' support at their forward ends bearing blocks D in which the oar-wheel shaft E is fitted and similar bearing blocks secured to the gunwales of the boat, also serve to support said shaft. The ends of the shaft E have each a pair of plates or disks F, F' of unequal size, the small plate F being secured upon the shaft a short distance inside of the plate F'. These plates F, F' having each four holes or sockets through which the ends of oars are passed and securely held so that the oars will have the required angle for catching the water. The counter shaft G and a similar counter shaft G' operate parallel with each other and with the oar shaft in bearings upon the longitudinal timbers B'. These shafts have cranks H crank-pins H' and pedals I secured at their inner ends and within convenient reach of the operator or operators upon the seats C' and C² which are raised or lowered as hereinbefore described to suit persons of different height.

The shaft G has secured to it a friction or brake-wheel K, and a pivoted brake-shoe, adapted to engage the periphery of the wheel K is within convenient reach of the foot of the operator for checking the oar-wheels at any desired time. The outer end of one of the crank-pins H' has a collar h to which one end of a coiled spring L is attached, the other end of said spring being secured to the transverse timber B² and serves to lift the crank in its outward movement, and thus relieve the operator while his full force is exerted upon the downward pressure. The opposite counter-pin has a roller h' which bears upon a spring actuated presser bar arranged beneath the plane of rotation of the same at an angle which will serve to throw the crank of its center should it stop at this point at any time and together with the spring L will

operate to relieve the driver of all exertion. The spring L and spring actuated presser-bars M of the forward pedals are located oppositely to the corresponding springs and
 5 spring actuated presser-bars of the pedals of the rear crank shaft. The front and the rear crank shafts are coupled together upon each side by means of connecting rods M. The rear wheel O at the rear of the boat is similar
 10 to the oar-wheels at the sides of the boat and is connected to its shaft in the same manner. The revoluble shaft O' has a gear-pinion O² secured upon its inner end and is operated in bearings O³, O⁴, secured respectively to the
 15 stern A² and a cross-beam A³ of the boat. A tiller-shaft P has a gear-wheel P' upon its inner end engaged with the gear-pinion O² and is similarly supported in bearings at the stern end of the boat. The tiller crank P²
 20 may thus be easily turned in either direction to steer the boat.

The operation of the various devices I have described will be readily understood and any number of operators and oar-wheels may
 25 be employed.

The operation of the vessel will prove a pleasing sport and exercise similar to that of bicycling, and as greater power can be exerted by the feet than by the arms of most
 30 persons, a rapid movement and high speed

may be obtained by persons comparatively inexperienced.

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

1. In a propelling mechanism for boats, the combination with the oar-wheels and shaft, a counter-shaft geared to the oar-wheel shaft, and having cranks and operating pedals, a retracting-spring secured to the pedal upon one
 40 side and also to the framework, and a spring-actuated presser bar located beneath the companion pedal of the same shaft, substantially as and for the purpose set forth.

2. In a propelling mechanism for boats, the combination with a shaft having crank-arms, a collar carried by the pin of one of said crank-arms, and a roller carried upon the pin
 45 of the other crank-arm of the shaft, of a spring-actuated bar engaging the roller at times, and a retracting spring connected to the collar and to a stationary part of the boat, substantially as set forth.

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

HORACE HURLBURT.

Witnesses:

HARRIET E. PRICE,
 JNO. L. CONDRON.