

(No Model.)

J. S. MARTIN.  
MARINE PROPULSION.

No. 527,798.

Patented Oct. 23, 1894.

FIG - 1 -

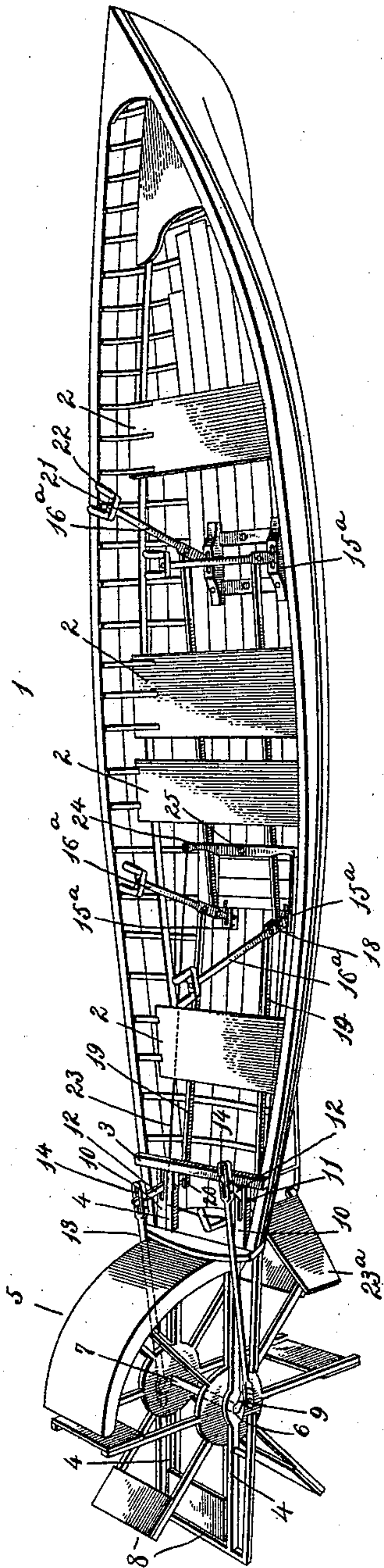
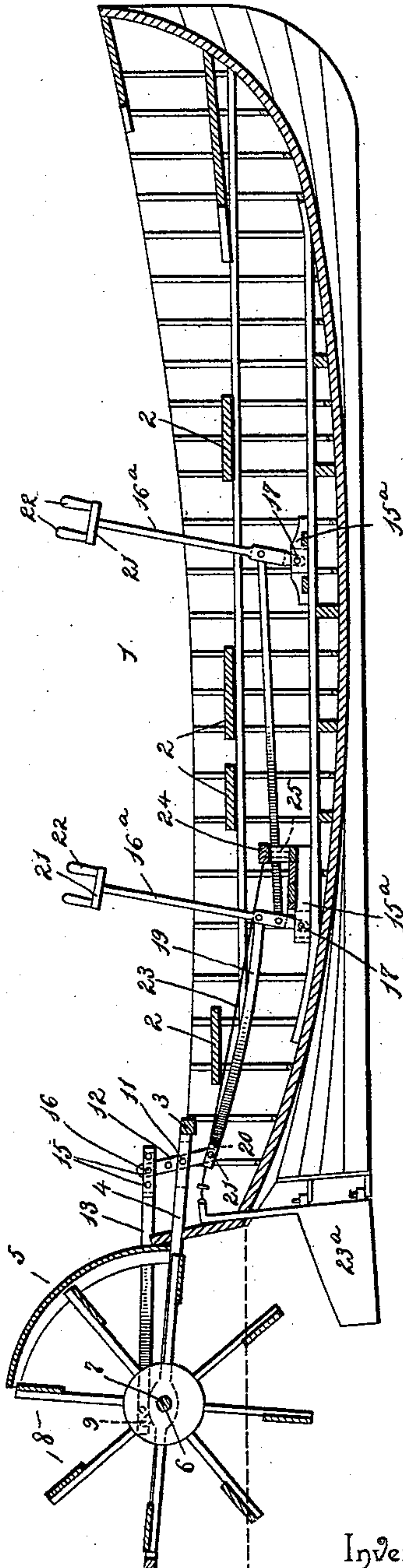


FIG - 2 -



Inventor

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Witnesses

Edw. S. Small, Jr.  
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# UNITED STATES PATENT OFFICE.

JOHN S. MARTIN, OF SNOHOMISH, WASHINGTON.

## MARINE PROPULSION.

SPECIFICATION forming part of Letters Patent No. 527,798, dated October 23, 1894.

Application filed January 2, 1894. Serial No. 495,407. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN S. MARTIN, a citizen of the United States, residing at Snohomish, in the county of Snohomish and State of Washington, have invented a new and useful Improvement in Marine Propulsion, of which the following is a specification.

My invention relates to marine propulsion and has particular reference to that class thereof operated by hand and designed for propelling small boats.

The objects of my invention are to provide a very simple construction or mechanical arrangement for propelling small boats, which mechanism or arrangement may be operated by a person facing the bow of the boat; which may be designed for one or several persons in accordance with the length of the boat, which will gain a maximum amount of power with a minimum amount of labor and which will be compact and out of the way within and below the upper edge of the boat, so as not to annoy or inconvenience the occupants of the boat.

With these and various other objects in view, my invention consists in certain features of construction hereinafter specified and particularly pointed out in the claims.

Referring to the drawings:—Figure 1 is a perspective view of a boat embodying my invention. Fig. 2 is a longitudinal sectional view of the same.

Like numerals of reference indicate like parts in both the figures of the drawings.

The numeral 1 designates the hull of any suitable boat, the same being provided with the usual seats 2. Adjacent to the stern of the boat I arrange a cross-timber 3, and secure to said timber and to the stern-wall of the boat a pair of rearwardly disposed parallel beams 4. These beams 4 support a hood 5 and also a pair of transversely opposite bearings 6 in which is arranged the paddle-shaft 7 having a series of radial paddles 8. The ends of the paddle-shaft project beyond the bearings and are provided with cranks 9, which are disposed at any angle to each other so as to overcome dead centers.

To the beams 4, between the stern wall and cross-timber 3 I secure slotted bearing-blocks 10, and fulcrum within the slots upon bearing-bolts 11, levers 12. These levers 12, as

will be seen, are fulcrumed at an intermediate point, and extend above and below the beams 4.

A pair of pitman-rods 13 are loosely connected with the cranks 9 of the paddle-shaft at opposite sides of the hood 5, and at their forward ends are slotted at 14 and provided with pairs of perforations 15, through any pair of which transverse connecting-bolts 16 are passed, the said bolts likewise passing through perforations formed in the upper ends of the short levers 12.

Upon suitable cross-timbers in the bottom of the boat and in front of each of the seats I locate bearing-blocks 15<sup>a</sup>, the same having slots formed therein to receive the lower ends of a pair of operating levers 16<sup>a</sup>, which are pivoted by bolts 17 within said slots. These levers extend upward in front of the seat to be occupied by the operator and above their lower pivoted ends are provided with slots 18 to receive the front ends of connecting-bars 19, whose rear ends are provided with slots 20 that receive the lower ends of the short levers 12, and are pivotally connected thereto by transverse bolts 21.

It will be seen that a person occupying the seat and grasping the levers 16<sup>a</sup>, may, by vibrating the same in opposite directions, cause a rotation of the paddle-shaft together with the paddle-wheel and thus propel the boat in either direction. I may arrange double sets of levers 16<sup>a</sup> in front of the several seats of a boat, and connect said levers by intermediate bars in a manner that is obvious and too well understood to require illustration.

If preferred, the levers 16<sup>a</sup> may be operated by two persons instead of one, which I accomplish by arranging upon the upper ends of said levers cross-heads 21, at whose ends vertical handles 22 are located. When thus arranged, said levers may be operated by two operators who face each other, one facing the bow and the other the stern.

The rudder 23<sup>a</sup> is arranged on the stern-post of the boat, and through proper tiller-ropes 23 passing through suitable guides, to be operated by the feet of the operator, whose accommodation I locate the tiller-bar 24 upon a pivot 25 in front of the seat 2.

By my invention, it will be seen that I am enabled to propel a boat with ease to the op-



erator, and yet, at the same time multiply or increase the power expended, the same resulting in a maximum speed of rotation of the propeller of the boat. By arranging the mechanism so that the operator faces the bow, many disadvantages are overcome and advantages secured. The operator will be enabled to see all obstructions that may lie in his path, as well as to take advantage of any currents, which exist in many streams, which will greatly facilitate his progress. By the employment of the levers 12, it will be seen that the working mechanism is all below the seats and cannot in any way inconvenience the occupants of the boat, nor obstruct their ingress or egress.

The number of operating-levers 16<sup>a</sup> and connecting-rods may be duplicated to suit the requirements and the size of the boat.

Having described my invention, what I claim is—

1. The combination with the hull of a boat, of bearings arranged in the rear of the stern, a paddle-shaft having cranks, and the paddle-wheel journaled in the bearings, a pair of operating levers fulcrumed at their lower ends in front of a seat of the boat, a pair of vertical levers fulcrumed in rear of the seat, pitman-rods between the upper ends of the vertical levers and the cranks of the shaft, and connecting-bars between intermediate points of the operating-levers and the lower ends of the vertical levers, substantially as specified.

2. The combination with the hull of a boat, the cross-timber, the rearwardly disposed parallel beams having bearings, the paddle-shaft arranged in the bearings and having cranks at its outer ends, the paddle-wheel arranged upon the shaft, of the slotted blocks secured to the sides of the beams, the short vertical levers intermediately fulcrumed in the slot-

ted blocks, the pitman-rods loosely connected at their rear ends to the cranks of the shaft and at their front ends slotted and pivotally and adjustably connected with the upper ends of the short levers, the slotted bearing-blocks in front of the seat, the levers pivoted at their lower ends in bearing-blocks, said levers above their points of pivot having slots, and the rods pivoted in the slots of the levers and at their rear ends provided with slots in which are pivoted the lower ends of the vertical levers, substantially as specified.

3. The combination with the hull of a boat, the cross-timber, the rearwardly disposed parallel beams having bearings, the paddle-shaft arranged in the bearings and having cranks at its ends, the paddle-wheel arranged upon the shaft, of the slotted blocks secured to the sides of the beams, the short vertical levers intermediately fulcrumed in the slotted blocks, the pitman-rods loosely connected at their rear ends to the cranks of the shaft and at their front ends slotted and pivotally and adjustably connected with the upper ends of the short levers, the slotted bearing-blocks in front of the seat, the levers pivoted at their lower ends in the bearing-blocks, said levers above their points of pivot having slots, and the rods pivoted in the slots of the levers and at their rear ends provided with slots in which are pivoted the lower ends of the vertical levers, the cross-heads at the upper ends of the operating levers, and the pairs of handles on the cross-heads, substantially as specified.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN S. MARTIN.

Witnesses:

C. W. SIGLAR,  
JOHN F. ELDRED.