(No Model.)

J. REHM & F. A. C. MARX.

PADDLE ATTACHMENT FOR BOATS.

No. 456,846. Patented July 28, 1891.

Fig. 1.

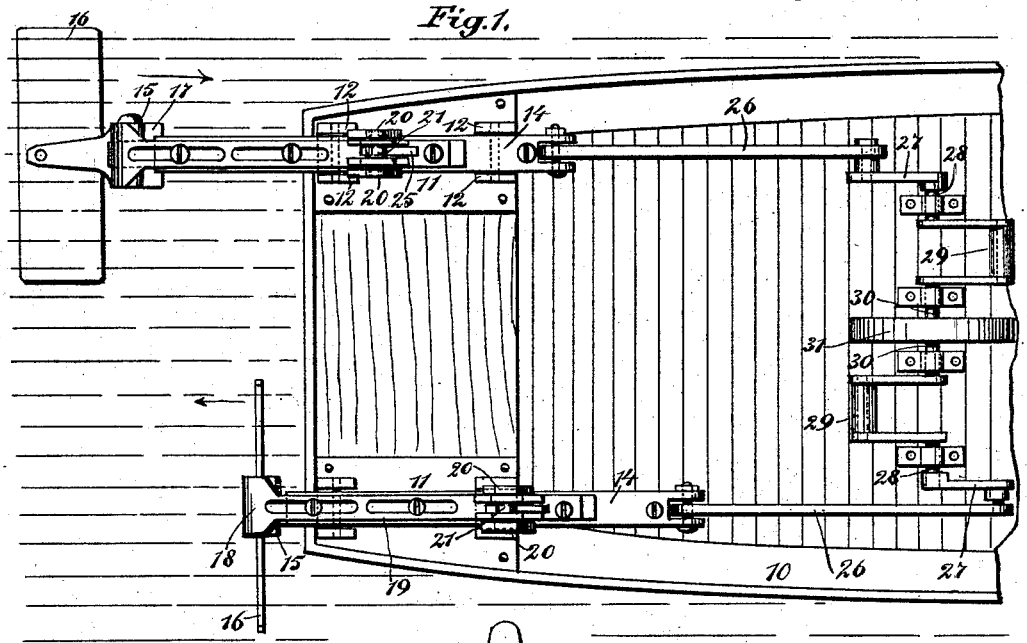


Fig. 2.

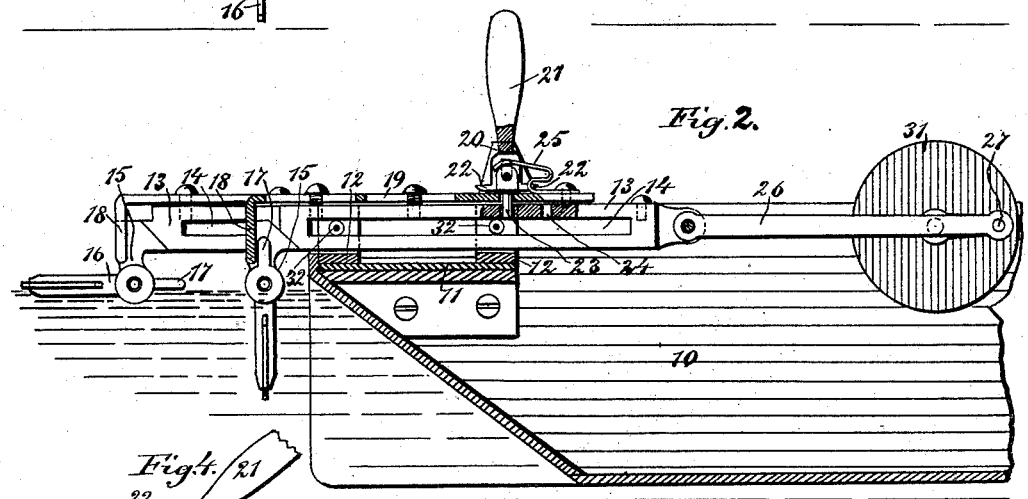


Fig. 4.

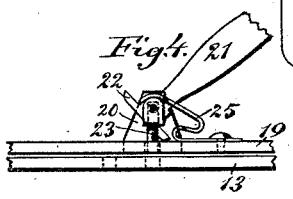


Fig. 3.

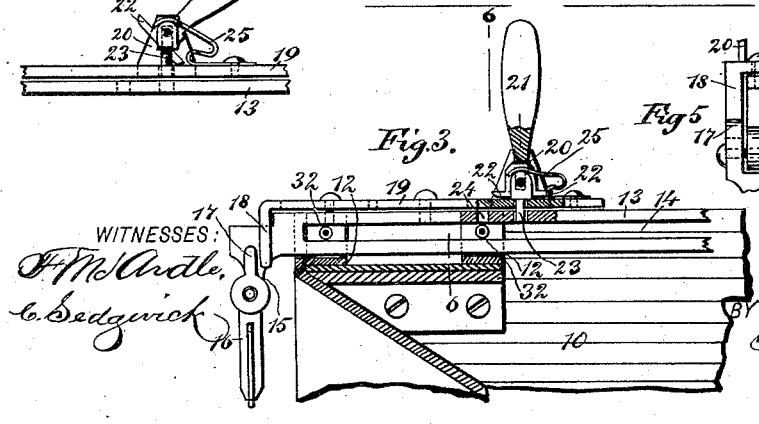


Fig. 5

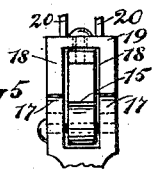
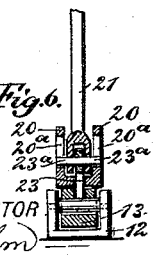


Fig. 6.



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JOHN REHM AND FERDINAND A. C. MARX, OF NEW YORK, N. Y.

PADDLE ATTACHMENT FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 456,846, dated July 28, 1891.

Application filed April 2, 1891. Serial No. 387,379. (No model.)

To all whom it may concern:

Be it known that we, JOHN REHM and FERDINAND A. C. MARX, both of the city, county, and State of New York, have invented a new and Improved Paddle Attachment for Boats, of which the following is a full, clear, and exact description.

Our invention relates to improvements in propelling mechanism for boats; and the object of our invention is to produce a simple and efficient means for propelling a boat by foot or hand power, and also to produce certain attachments which may be used for steering as well as for propelling the boat.

To this end our invention consists in certain features of construction and combinations of parts, which will be hereinafter described and claimed.

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

Figure 1 is a broken plan view of a boat provided with the attachments embodying our invention. Fig. 2 is a vertical section of the same, showing the mechanism partly in side elevation and partly in section. Fig. 3 is a broken detail sectional view of the slide-bar and paddle and lever mechanism for adjusting the slide-bar. Fig. 4 is a broken detail view showing the adjusting-lever tilted to raise the locking-pin from the slide-bar. Fig. 5 is a broken detail rear view showing the manner in which a paddle is pivoted to its support, and Fig. 6 is a broken detail cross-section on the line 6 6 of Fig. 3.

The boat 10 has a plate 11 affixed to each side of the stern on the rear seat or upon any convenient support, and each plate is provided with keepers 12, in which slides a bar 13, which is longitudinally and horizontally slotted, as shown at 14, throughout the greater part of its length. The slide-bars 13 are arranged to project outward beyond the stern of the vessel, and each slide-bar has a depending end 15, in which is pivoted a paddle 16, and the paddles are secured to the end of the slide-bars by means of suitable straps which project upward above the point at which the paddle is pivoted and is adapted to engage the depending end 18 of the plate 19, which plate is used for adjusting the paddles so that they will move to propel the vessel forward or backward, the plate being held to slide on the slide-bar and having a fastening device, which will be described presently. The plates 19 are secured to the slide-bars 13, and it will be seen that when the depending end 18 of one of the plates is arranged in the rear of the stop 17 of the paddle, as in Fig. 2, when the slide-bar is forced backward the stop will press against the depending end of the plate and the paddle will be maintained in a vertical position, so as to push the boat ahead, and when the paddle is drawn forward it will turn up edgewise and slide easily through the water, offering but little resistance, but when the depending end 18 of the plate is arranged in front of the paddle-stop 17 the paddles will work in the reverse way and will operate to force the vessel backward. Each plate 19 is provided near its forward end with upwardly-extending parallel lugs 20, which have vertical slots 20^a in the sides, as shown in Fig. 6, and pivoted in the lugs is a lever 21, the lower end of which has toes 22 extending parallel with the plate 19, so that when the lever is tilted the toes will form a fulcrum and cause it to be raised from the plate 19. The lever 21 is recessed at its lower end and is pivoted to a pin 23 by a pin 23^a, the ends of which extend into the slots 20^a, which pin 23 has an enlarged rounded head and is adapted to enter a perforation in the plate 19 and similar holes 24 in the upper portion of the slide-bar 13. The holes 24 are arranged in the bar 13, so that when the pin 23 is in place in the forward hole the plate 19 will be held with its bent end 18 in front of the paddle-stop 17, and when the pin is in the rear hole the depending end of the plate will be held in the rear of the paddle-stop. The pins 23 are normally pressed downward and held in place by springs 25, which are secured to the plates 19 and press downward upon the upper ends of the pins. The front ends of the slide-bars 13 are pivotally connected by means of pitmen 26 with cranks 27 of the shafts 28, which shafts are arranged on opposite sides of the boat and in alignment with each other, and the shafts are turned by means of pedals 29, which pedals also turn the shaft 30, and this shaft carries a balance-wheel 31. The cranks on the shafts 28 are arranged so as

to point in opposite directions, so that when one crank and the slide-bar connected therewith is forced forward the opposite slide bar will be forced backward, and the paddles will thus be alternately operated. The pedals may be turned by foot-power or by hand, and it will be seen that when they are turned the paddles will be alternately moved backward and forward, so as to propel the boat, and by adjusting the plates 19 in the manner described the boat may be propelled either forward or backward. The attachments may be also operated to steer the boat, so that no rudder is necessary; and to do this, one of the levers 21 is tilted, as shown in Fig. 4, and this prevents one of the paddles from being operated, and if the other paddle is kept moving it will turn the vessel to one side. To insure the easy operation of the slide-bars, rollers 32 are arranged in the slots of the bars, and the bars will thus move on the rollers and will operate with little friction.

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

1. The herein-described paddle attachments for boats, comprising parallel crank-operated slide-bars arranged in the stern of the boat, paddles pivoted to the rear ends of the slide-bars and having upwardly-extending stops, sliding plates mounted on the slide-bars and adapted to engage the paddle-stops, and a lever mechanism for changing the relative positions of the plates and stops, substantially as described.

2. The paddle attachments for boats, comprising crank-operated slide-bars arranged to move on rollers in opposite sides of the stern of the boat, paddles pivoted to the rear ends of the slide-bars, said paddles having upwardly-extending stops, plates held to move on the tops of the slide-bars and provided with depending ends to engage the stops, and a lever mechanism for adjusting the plates, substantially as shown and described.

3. The combination, with the perforated slide-bar and the perforated adjusting-plate mounted thereon, of a lever pivoted on the plate and a spring-pressed pin carried by the lever and adapted to enter the perforations of the plate and bar, substantially as described.

4. The combination, with the perforated slide-bar arranged to operate a paddle and the perforated adjusting-plate mounted thereon, of a lever pivoted on the plate and provided with oppositely-extending toes, and a spring-pressed pin mounted in the recess in the lower end of the lever and adapted to enter the perforations of the plate and slide-bar, substantially as described.

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