(No Model.)

W. H. DICK.

PROPELLING MECHANISM FOR BOATS.

No. 470,108. Patented Mar. 1, 1892.

Fig. 1.

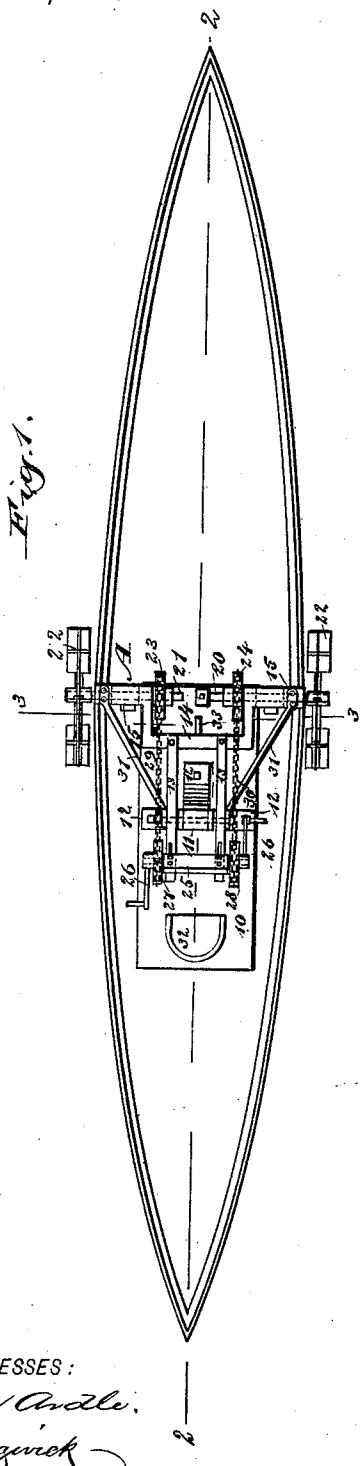

Fig. 2.

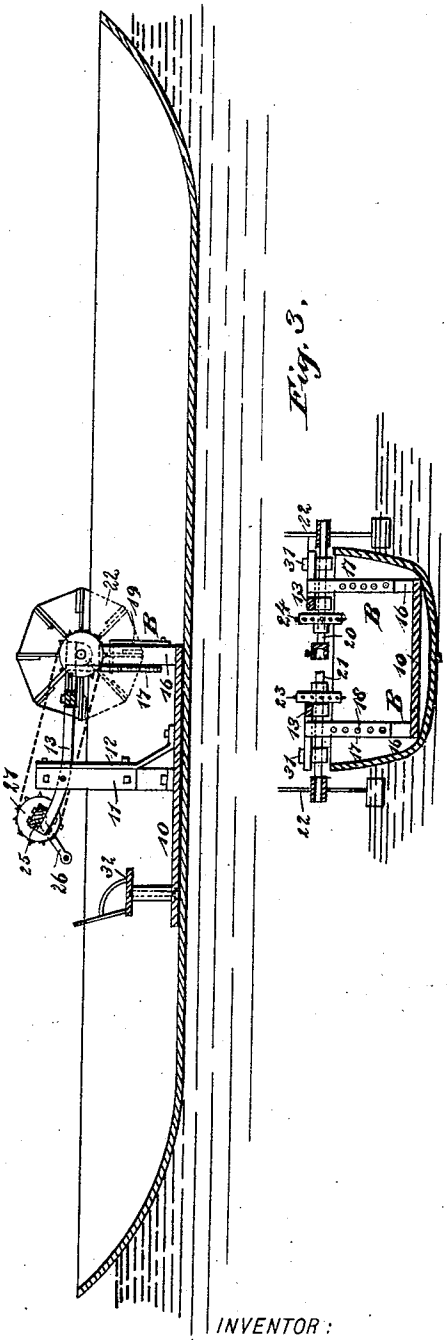

Fig. 3.

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PROPELLING MECHANISM FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 470,108, dated March 1, 1892.

Application filed November 20, 1891. Serial No. 412,503. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. DICK, of Dansville, in the county of Livingston and State of New York, have invented an Improved Propelling Mechanism for Boats, of which the following is a full, clear, and exact description.

My invention relates to a propelling mechanism for boats, especially for such boats as those denominated "row-boats," "skiffs," "canoes," and such small craft.

The object of the invention is to provide a propelling mechanism capable of being expeditiously and conveniently placed in position within a boat or removed therefrom, and when in position adjusted to the size of the boat.

Another object of the invention is to provide a mechanism for the purposes described which shall be of simple, durable, and light construction, easy of propulsion, needing no rudder, and capable of an increase of speed.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

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 plan view of a boat and of the device applied thereto. Fig. 2 is a longitudinal section through the boat and the device, the said section being taken on the line 2 2 of Fig. 1; and Fig. 3 is a transverse section taken on the line 3 3 of Fig. 1.

In the board or plate 10, which constitutes the base of the mechanism and is adapted to rest upon the bottom of the boat, a post 11 is upwardly projected, preferably at or near the center of said board or plate, which post is firmly secured to the latter in any suitable or approved manner, usually through the medium of plates 12, which are firmly secured to three sides of the post and engage with said post from its top to a point near its bottom, from which point the plates 12 are carried outward at an angle from the post, and are secured to the base-plate 10 by bolts or otherwise. At opposite sides of this post 11 arms 13 are pivoted, the said arms being practically straight at one end and upwardly curved at the other, as is best shown in Fig. 2, a pivotal attachment between the arms being usually effected by a single pivot-pin, as illustrated in Fig. 1.

The arms 13 at their straight ends are permanently connected with a frame A. This frame comprises, preferably, a horizontally-located central arch section 14 and straight sections 15, projected at an angle outward in opposite directions from the members of the arch, the attachment between the frame and the arms 13 being made at each side of the center of the arch-section. This frame is maintained in its vertical position through the medium of standards B, secured to the base-plate 10, one at each side, as is best shown in Fig. 3. These standards comprise two sections 16 and 17. The section 16 is the lower section and is firmly attached to the base. The upper sections 17 of the standards are secured to the straight sections 15 of the frame A, and said upper sections are adjustable upon the lower sections, the adjustment being accomplished by providing the upper sections of the standards with a series of apertures 18, as shown in Fig. 3, and attaching to the lower sections spring-arms 19, which arms have pins attached to their upper ends or formed integral therewith, the said pins being adapted to pass through apertures in the lower sections of the standards and enter any one of the apertures 18 in the upper sections. By this means the frame A may be adjusted vertically to accommodate the device to boats of different depths, or to raise or lower the paddle-wheels to conform to the load or draft of the boat. The frame A is preferably made of sufficient length to extend over the gunwales of the boat—as, for instance, by means of sleeve and set-screw extensions on both the frame and the paddle-shafts journaled thereon.

In suitable bearings beneath the straight sections of the frame A shafts are journaled transversely of the boat, the said shafts being designated, respectively, as 20 and 21. These shafts are of sufficient length to extend beyond the gunwales of a boat of ordinary width and have attached to their outer ends paddle-wheels 22 of any approved construction. The inner ends of the shafts extend beyond the inner extremities of the straight members of the frame, and may be employed

together if occasion may demand. Near the inner end of each shaft 20 and 21 a sprocket-wheel is firmly secured, which wheels are designated as 23 and 24.

The arms 13 at their curved ends are preferably connected by a cross-bar 25 or its equivalent, and at the curved end of each arm a shaft is located. Upon said shafts sprocket-wheels are loosely mounted, the said wheels being designated as 27 and 28. The transversely-aligning sprocket-wheels at both sides of the device are connected by chain-belts 29 and 30, the sprocket-wheels 27 and 28 being independently revolved by crank-arms 26, attached to their hubs. The cross-bar 25 has a sliding connection with the arms 13, whereby the chain-belts may be tightened or loosened, as desired, as shown in Fig. 1. In order to stiffen the frame-work of the entire device, braces 31 are usually carried from the outer sides of the arms 13 to the frame A near its outer extremities.

In front of the end of the device carrying the driving sprocket-wheels 27 and 28 a seat 32 is supported in any approved manner upon the base-plate 10, which seat is to be occupied by the person propelling the boat, and to protect the occupant from spray which may be thrown up by the paddles each paddle is surrounded by a housing, the said housing acting as a shield. The housing is of the usual construction, consisting, preferably, of upright semicircular plates having outwardly-extending marginal flanges projecting over the wheels, the housings being ordinarily attached to the frame A. The frame is provided at its central portion with a handle 33, (shown in Fig. 1,) which handle, or "lever," as it may be called, is adapted for use in raising and lowering the paddle-wheels.

It is evident that the entire machinery may be quickly removed from or placed in a boat and adjusted to its width and depth, as the frame A is vertically adjustable and the paddle-shafts 20 and 21 are laterally adjustable, and it will be further observed that no fastening devices are necessary, as the weight of the device, together with the weight of the operator when seated in the chair 32, will be sufficient to maintain the device stationary within the boat. Through the medium of such a propelling mechanism as has been described the boat may be conveniently carried either backward or forward or turned in any direction, no rudder being required, as each paddle is operated independently of the other, and if great speed is desired the gearing may be multiplied to suit.

In the standard 11 a suitable socket may be formed, if desired, for the reception of the stick of an umbrella or a like shading device, adapted to shield the operator from rain or from the rays of the sun, or a small sail may be secured at this point to assist in the propulsion of the boat. If in practice it is found desirable, the two sprocket-wheels 27 and 28 may be coupled together, so that a person having but one arm may conveniently manipulate the mechanism.

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

1. In a propelling mechanism for boats, the combination, with a base and a standard erected thereon and arms adjustably attached to the standard, of bars connected with the arms and extending at an angle therefrom in opposite directions, shafts journaled longitudinally upon the bars, paddle-wheels secured to the outer ends of the shafts and driving-gears attached to their inner ends, driving-shafts journaled near one extremity of the arms, and a driving connection between the driving-shafts and the driving-gears of the wheel-shafts, substantially as shown and described.

2. In a propelling mechanism for boats, the combination, with a base, a standard projected from the base, arms adjustably attached to the said standards, and a frame containing journal-boxes connected with the arms and adapted to extend transversely of the boat, of an adjusting mechanism connected with the frame, shafts journaled in the boxes of the frame, paddle-wheels secured to the outer ends of the shafts and driving-gears attached to their inner ends, sprocket-wheels held to revolve near the outer ends of the arms, and driving connections between the said sprocket-wheels and the driving-gears of the wheel-shafts, substantially as and for the purpose specified.

3. In a propelling mechanism for boats, the combination, with a base, a seat located thereon, a standard projected upwardly from the base, arms adjustably connected with the standard at one side of their centers, the shorter ends of the arms being upwardly curved, and bars containing journal-boxes connected with the arms and extending outward in opposite directions at right angles therefrom, of shafts adjustably journaled in the boxes of the bars, paddle-wheels secured to the outer ends of said shafts, sprocket-wheels secured to the inner ends of the paddle-shafts, crank-shafts journaled at the curved ends of the arms, and chain belts connecting the sprocket-wheels on the crank-shafts with those on the paddle-shafts, as shown and described.

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Witnesses:
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