

*W. Frankel,
Paddle Wheel.*

No. 94588.

Patented, Sep. 7. 1869.

Fig 1.

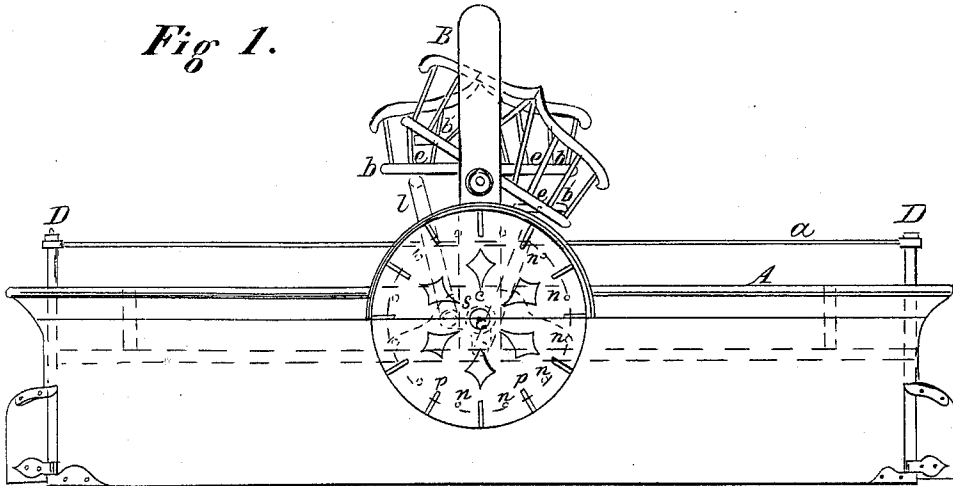
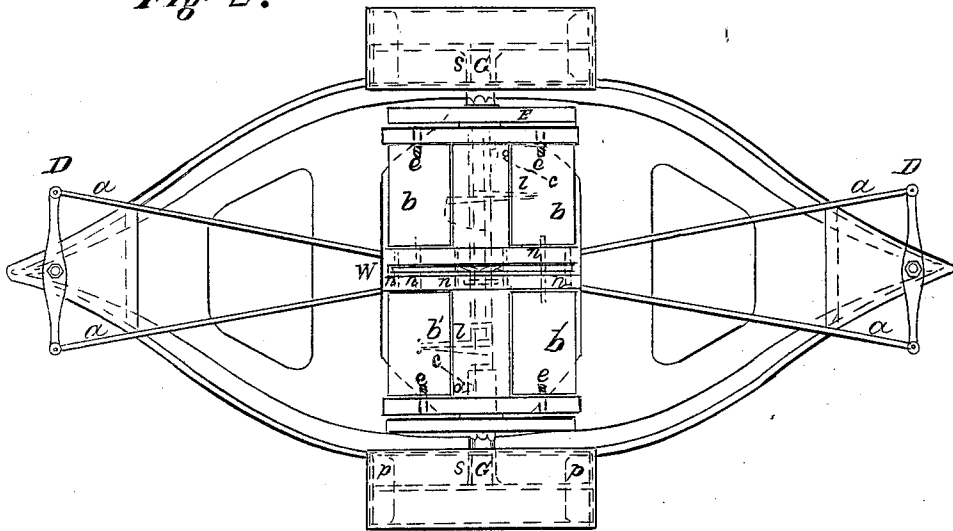


Fig 2.



Witnesses.

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WILLIAM FRANKEL, OF SPRINGFIELD, OHIO.

Letters Patent No. 94,588, dated September 7, 1869.

IMPROVEMENT IN FLOATING-VELOCIPEDES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, WILLIAM FRANKEL, of the city of Springfield, in the county of Clark, and State of Ohio, have invented certain new and useful improvements in mode of propulsion for small vessels, and which can be applied to hand-cars and street-cars for railroads, and to other wheeled vehicles; and I do declare that the following is a full, clear, and accurate description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in using a wheel with projections or treadle-pins on each side, near its periphery, in combination with oscillating seats, (which are connected, by rods, to cranks upon the shaft of a vessel, or, in a hand or street-car, or other wheeled vehicle, with the driving-axes of the same,) said wheel being mounted upon the shaft or axle in such convenient position as will enable the operators to use their feet upon the treadle-pins, or projections, to propel such vessel, car, or other wheeled vehicle, forward or backward, as may be desired.

Also, in providing the seat-pieces with pivots at their ends, upon which they turn easily, to allow the operators to maintain an erect position while operating the propelling-mechanism.

Figure 1 is a side elevation of a vessel, to which my improvements are applied, having side-wheels *p p*.

Figure 2 is a plan of the same vessel.

Similar letters of reference indicate corresponding parts.

In fig. 1, A represents the hull of the vessel, B, upright posts with cross-bar, upon which oscillating seats are mounted and connected, with rods *ll*, to the cranks upon the main shaft G. These oscillating seats, with their connections, are fully described in my application for a patent for an improvement in velocipedes, filed April 19, 1869, and I do not claim them as a part of this invention, but the hanging of the seat-pieces *b b* and *b' b'* upon pivots *e e*, in the centre of their ends, is an improvement in the oscillating-seat motion therein set forth. The seat-pieces *b' b'* are shown in a horizontal plane, while the frame of the seat is inclined by the downward motion of the crank. The treadle-pins of the central wheel W are shown at *n n*, upon the paddle-wheel, and also, the periphery of the wheel, in dotted lines. D D are the rudder-posts with cross-levers upon them, to which cords *a a* are attached for

steering, running fore and aft the vessel, and crossing each other amidships.

Figure 2 shows a plan of the vessel with central wheel W on the shaft G, and the treadle-pins, or projections *n n* on the same. It will be seen that the operators, on either side, can use their feet upon these treadle-pins to aid in propelling the vessel in either direction, those on one side only using them at a time. The shaft G has an outer sleeve, *s*, fitting upon it, to which the paddle-wheel, on each end, is attached. This sleeve has a set-screw, *c c*, to tighten it upon the shaft or loosen it from the same, when only one wheel is used, as in turning the vessel. The horizontal position of the seat-pieces *b' b'* are clearly shown in this figure, and the pivots *e e*, which support them at the centre of their ends, are also seen.

The advantage of the pivoted seat will be evident, as seen in the drawings, as it enables the operator to sit erect during the backward and forward motion.

The weight of the operators thrown upon the treadle-pins *n n* of the wheel W, will start the vessel or vehicle in either direction, as it will easily throw the cranks off their centres.

In using my invention upon hand or street-cars, its advantages will be seen in starting them with a load.

One or more propelling-wheels, W, may be used upon them, as desired, or according to the number of axles, and any number of persons occupying the seats can work them—one-half in each direction, as in a hand-car with two axles. Sixteen persons, or four upon each seat, can work two propelling-wheels, eight at a time, in either direction.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent is—

1. The propelling-wheel W, with treadle-pins, or projections *n n*, in combination with the oscillating-seat movement, as shown and described.

2. The arrangement of the seat-pieces *b b* and *b' b'*, with pivots *e e*, in the oscillating-seat movement, in combination with the propelling-wheel W, and treadle-pins, or projections *n n*, as shown and described.

Witness my hand to my application for a patent for an improvement in mode of propulsion, this 3d day of May, 1869.

Witnesses:

WILLIAM FRANKEL.

I. ENGENSERGER,
D. C. CONVERSE.