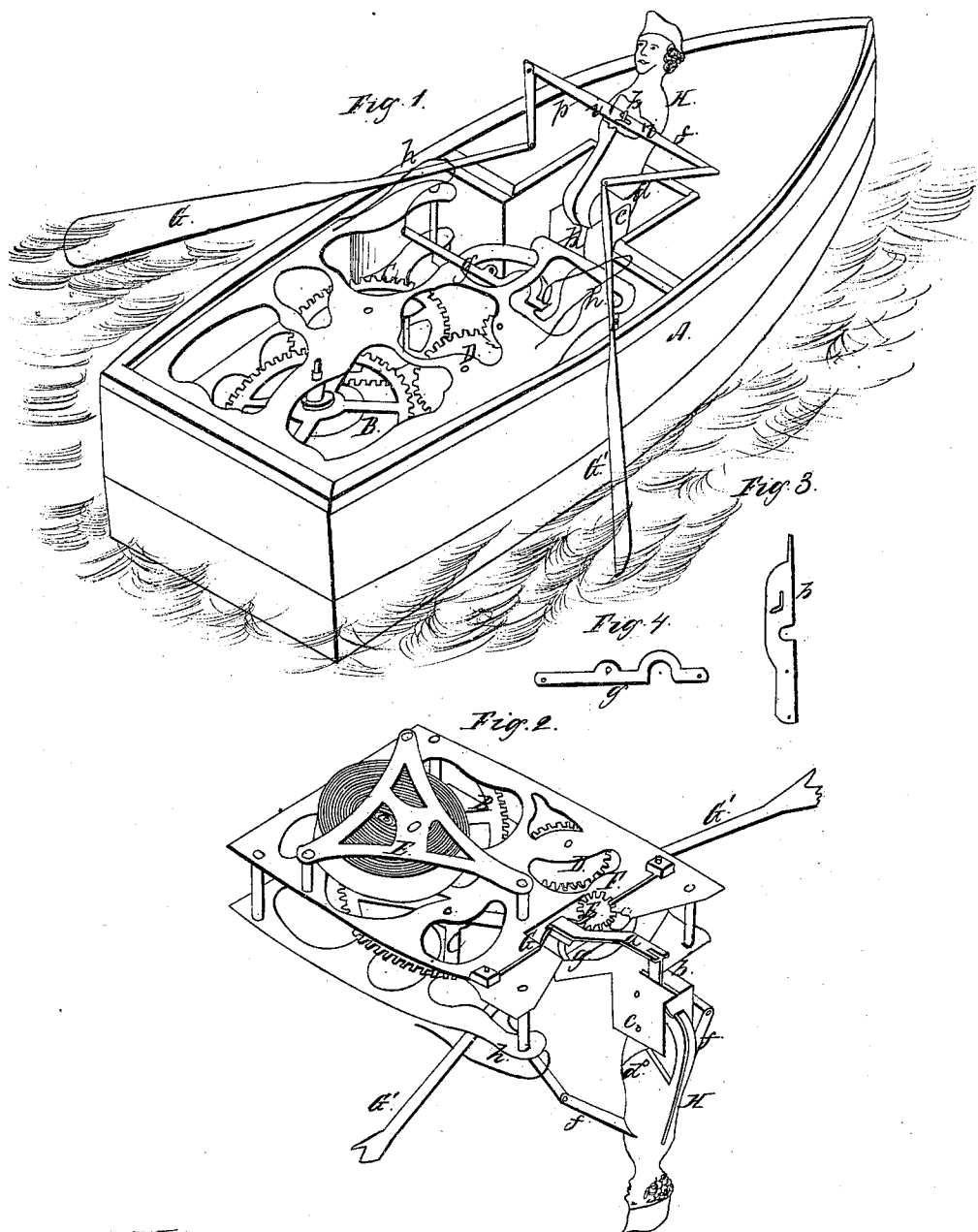


N. S. Warner
Toy Row Boat.

N^o 86,718.

Patented Feb. 9, 1869.



Witnesses:
Lewis B Brown
R. J. Fitzgerald

Inventor:
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United States Patent Office.

NATHAN S. WARNER, OF BRIDGEPORT, CONNECTICUT.

Letters Patent No. 86,718, dated February 9, 1869.

TOY ROW-BOAT.

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, NATHAN S. WARNER, of the city of Bridgeport, in the county of Fairfield, and State of Connecticut, have invented a new and useful Improvement in Toy Row-Boats; and I do hereby declare that the following is a full, clear, and exact description of the construction, character, and operation of the same, reference being had to the accompanying drawings, which make part of this specification, in which—

Figure 1 is a perspective view of the boat, with the deck removed, showing the rower, train of wheels, &c., which operate the rower, &c.

Figure 2 is a perspective view of the train, rower, &c., showing the train, &c., inverted, and showing the crank, connecting-rod, &c.

Figure 3 is a plan of the vertical lever, which works the body, arms, &c., of the imitation rower.

Figure 4 is a plan of the bar, which is connected with the crank to elevate and depress the oars.

My improvement consists in connecting, with any ordinary train of wheels, moved by a spring, a suitable crank, connecting-rod, and lever, so that the motion of the arms and body of the mimic rower will imitate those of the natural rower, by making the arms move faster than the body, in both directions.

I make the boat in the shape shown at A, fig. 1, or of any other desired shape.

I make the train of wheels B, C, D, &c., and the spring E as represented in fig. 2, (and partially in fig. 1,) or in any other convenient form, so as to work the crank G, fig. 2, and by means of the connecting-rod a and lever b, figs. 1 and 2, work the body and arms of the rower, and thereby the oars G' G', to propel the boat A.

I make the crank G as represented in fig. 2, or of any other convenient form, so as to work the connecting-rod a and lever b, fig. 2, to effect the operation of the body and arms of the rower.

I make the vertical lever b substantially in the form shown in fig. 3, (and indicated at b, figs. 1 and 2,) and connect it with the crank G, as shown in fig. 2.

This lever b, by means of the fulcrum-pin d, vibrates

the body H of the rower on the pin c, and, by means of its upper end, as represented at b, fig. 1, works the arms ff on the fulcrum i i, so that the arms will move much faster than the body, and thereby give the whole the natural motion.

I make the bar which gives the vertical motion to the oars (by its connection with the crank, &c.) substantially in the form shown in fig. 4, and as represented at g, figs. 1 and 2.

Having constructed the several parts of the apparatus as before described, I place the movement, or train of wheels, &c., in the boat, and attach the mimic rower, oars, &c., in their proper position, as represented in fig. 1. I then wind up the spring E, fig. 2, when the whole will be ready for a voyage, the extent of which may be determined by the position of the rudder, which may be so placed as to make the circle, or segment of a circle, of any desired radius.

The principle of my invention consists in that it gives to the body and arms of the mimic rower, and also to the oars, the same motion as is used by a natural, or human rower.

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

1. The combination of the lever b, body H, and arms ff, when so constructed and arranged as to produce the desired motions, substantially as herein described and set forth.

2. The combination of the crank G, connecting-rod a, and lever b, when so constructed, arranged, and worked by a train of wheels, as to give the desired motion to the body and arms, substantially as herein described.

3. The combination of the crank G, the cross-bar g, the wires h h, and oars G' G', when so constructed and connected as to give the desired vertical motion to the oars, as herein described and set forth.

NATHAN S. WARNER.

Witnesses:

LEWIS B. BROWN,
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