G. DREVAR.

COMBINED LIFE-BUOY AND WATER-VELOCIPEDE.

No. 193,365. Patented July 24, 1877.

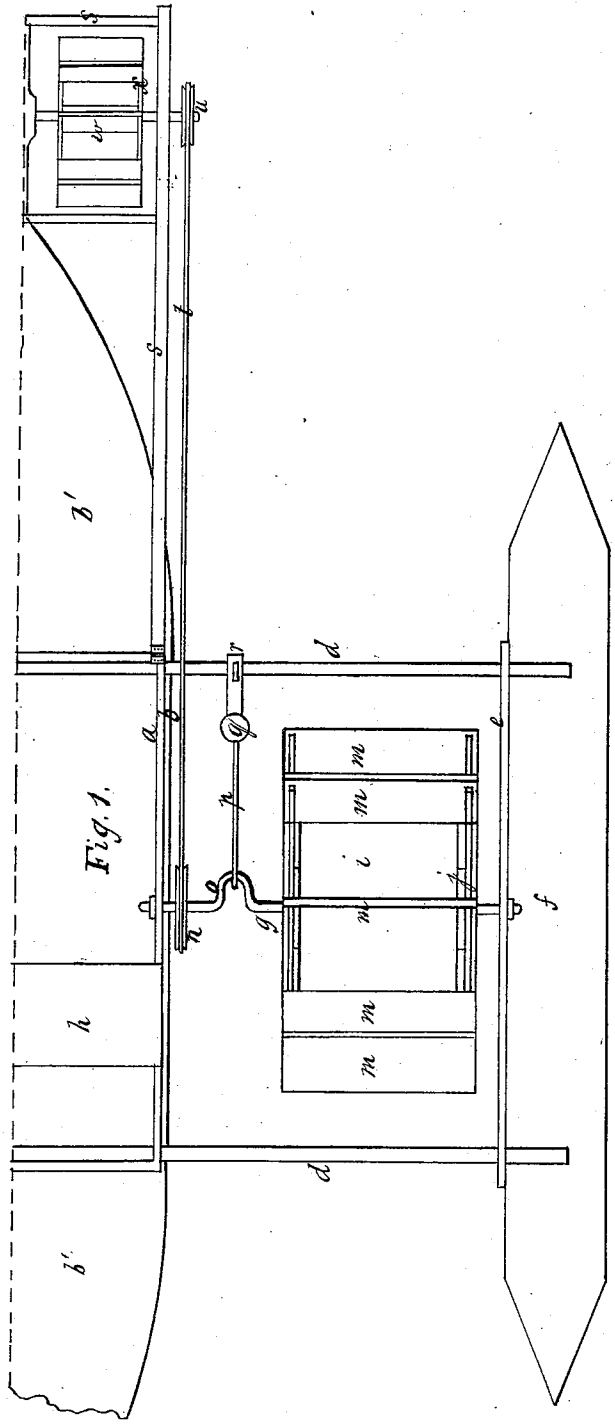


Fig. 1.

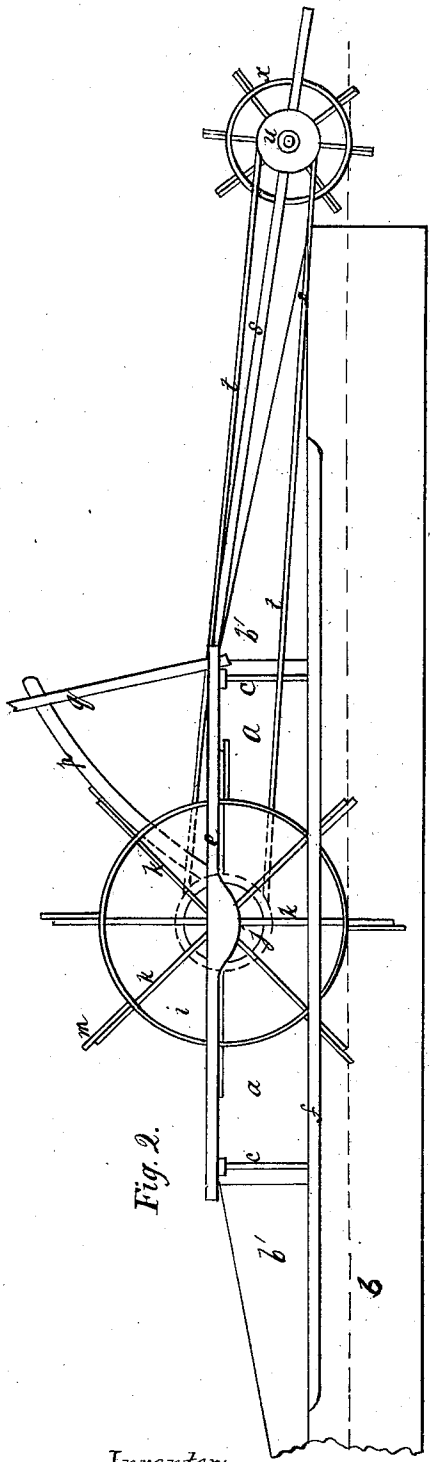


Fig. 2.

Witnesses:

Pennington Halsted

Chas. E. Bell

Inventor:

George Drevar

per John J. Halsted,

His Attu.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

GEORGE DREVAR, OF LONDON, ENGLAND.

## IMPROVEMENT IN COMBINED LIFE-BUOY AND WATER-VELOCIPEDE.

Specification forming part of Letters Patent No. **193,365**, dated July 24, 1877; application filed May 10, 1877.

*To all whom it may concern:*

Be it known that I, GEORGE DREVAR, of London, England, ship-master, have invented a Water-Chariot, applicable also as a combined Life-Buoy and Life-Boat, of which the following is a specification:

The principal object of this invention is to construct on board ship, and in a cheap, light, and inexpensive manner, and with great speed and facility, a combined life-buoy and life-boat, which may be used to save life in cases of accident, such as a man falling overboard, or to communicate with the shore in cases of shipwreck when an ordinary boat would not live in the sea. The vessel may also be used for ascending shallow rivers or streams in exploring expeditions, and may be termed a "water-velocipede."

In carrying out my invention I have endeavored to utilize, for my purpose, such articles and materials only as are almost invariably to be found on board a ship; but I do not limit myself to the use of such materials, as the vessel, when constructed on shore or intended for pleasure, may be made of other materials carefully prepared for the purpose.

To make the invention better understood, I will proceed to describe the same by reference to the accompanying drawing, in which Figure 1 is a half plan, and Fig. 2 a side elevation of the combined life-buoy and life-boat as made on shipboard in an emergency such as an apprehended shipwreck.

I form the body or hull *a* of the vessel of an ordinary three-dozen wine-case, such as those used for exporting French wines or Cognac brandy in bottles, or other suitable case, from which, of course, the lid must be removed. I take two boards or thin planks, *b b*, about three-quarters of an inch thick, about six feet long, and six inches deep, and firmly secure them together at the ends by cords or otherwise. They are then drawn asunder in the middle, like a shoemaker's last, and passed over the sides of the box or case *a*, to which they are secured by nails or otherwise. The bottom edges of these boards *b* should be flush with the bottom of the box *a*, and their projecting ends will form a pointed stem and stern, as shown. The inclosed triangular spaces *b' b'*, at each end of the vessel, may, if desired, be boarded in so as to give additional strength to the structure, but the whole of the external part of the vessel must be covered with strong canvas or some other waterproof fabric, and may be painted so as to render it more durable. Transoms or cross-pieces *d* are secured across the ends of the case *a*, and must be of sufficient length to project about eighteen inches or two feet beyond the sides. To these transoms are fixed the longitudinal bars *e e*, from which are suspended, by pieces *c*, two longitudinal boards, *f f*, forming outriggers. The longitudinal bars *e e* serve to support the outer bearings for the shafts *g* of a pair of paddle-wheels, the inner bearings of which are fixed on the sides of the central box or case *a*, which is provided with a movable cross-seat, *h*. The paddle-wheels may be composed of a ten-gallon oil-drum or other cylindrical vessel of about the same dimensions, divided into two parts and closed water-tight at both ends, so as to form two perfectly buoyant drums, *i i*. On each end of these drums or cylinders *i i* is fixed a wooden boss, *j*, to which bosses are fixed, in any convenient manner, a number of spokes, *k k*, connected together at the periphery of the drum by the ring. The outer ends of these spokes serve to carry the paddles or floats *m m* on the periphery of the drum, and the wheels thus made are fixed on shafts *g*, which are mounted in the bearings before mentioned. On the inner ends of each of the paddle-shafts is mounted a grooved pulley, *n*, and a crank, *o*, on the shaft is connected, by a link or rod, *p*, to a handle or lever, *q*, hinged at *r* to the front transom *d*, whereby the crank is worked so as to rotate the side paddle-wheels.

At the stem (and also at the stern of the vessel, if required) is a pair of small paddle-wheels, *x x*, mounted in the frame *s* hinged to the front of the case *a*, such paddle-wheels being driven by means of the bands *t* passing round the grooved pulley *n n* on the crank-shafts *g*, and also round smaller pulleys *u u* on the shafts of the small paddle-wheels *x x*. It is scarcely necessary to say that in practice the side wheels are inclosed in paddle-boxes made of any suitable material. The small paddle-wheels are made in a similar manner to the side wheels, hereinbefore described, except

that, instead of the drums *i i*, I employ a wooden nave, *w*.

As the frame *s*, carrying the small wheels *x x*, is hinged to the box *a*, it may, if required, be raised into a vertical position, and be provided with an umbrella, so as to serve as a weather-protector, or for carrying a sail to assist the side paddles. In these cases the bands would have to be slipped off the pulleys.

From the foregoing description it will be understood that the hull or body *a* of the vessel consists of the rectangular wine-case, which is open at the top, so that a person can sit therein, but has water-tight pointed ends, which give great buoyancy to the structure. Additional buoyancy and stability are given to the vessel by the out-riggers and the water-tight drums of the side paddle-wheels. It will also be understood that as each side wheel is mounted on an independent shaft, and is actuated by a separate lever, each wheel can be worked independently of the other, and in an opposite direction, so that the vessel can be maneuvered with great facility. It can also be propelled with either end foremost.

Although I have, in the foregoing description, explained how the vessel can be constructed out of materials usually found on board ships, it will be evident that a more sightly vessel can be made on shore from materials properly prepared for the purpose, and that the cranks may be actuated by treadles, instead of hand-levers, if preferred, or by both treadles and hand-levers. Such a vessel would be used as a water-velocipede for pleasure on lakes, rivers, or shallow streams, as it is calculated that it would not draw above four inches of water. It may also be used at sea, even in very rough weather, as it cannot be upset, and, being flat-bottomed, can land on a shallow, sandy shore or beach without danger, as any wave capable of damaging an ordinary boat will only throw my water-chariot or velocipede high and dry on the shore. In these cases the ends of the boat may be constructed so as to allow of being filled with compressed air to increase the buoyancy of the boat.

It will be understood that for pleasure-boats a small barrel-organ, or other similar musical instrument, may be placed under the seat, and be suitably connected to one of the paddle-shafts, so that the instrument will be played when the chariot is in motion.

Having thus described my invention, what I claim is—

1. The improved water-chariot, applicable, also, as a combined life-buoy and life-boat, constructed of a case or box, *a*, side pieces *b*, forming pointed ends, (boarded or covered in,) transoms *d*, longitudinal bars *e*, and outriggers *f*, in combination with the side and end paddle-wheels operated by the cranks, hand-levers, pulleys, and bands, the whole constructed and arranged substantially as and for the purposes hereinbefore described, and represented in the drawing.

2. The frames *s* at either or both ends of the chariot, and carrying each the end wheels *x*, and hinged to the box or case, substantially as shown and described, in combination with the side wheels, both sets of wheels, at side and end, deriving their rotary movements from the same mechanism, all as set forth.

GEORGE DREVAR.

Witnesses:
G. I. REDFERN,
A. ALBUTT.