

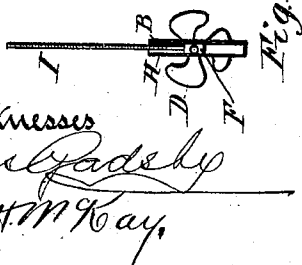
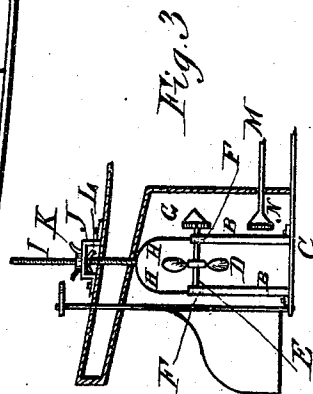
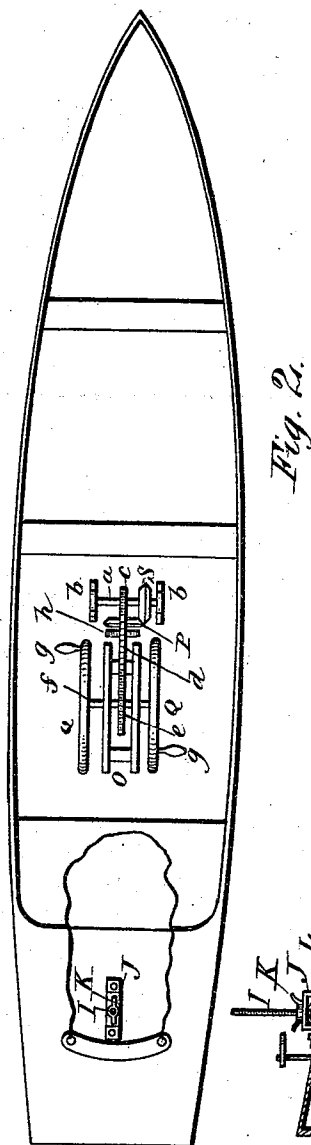
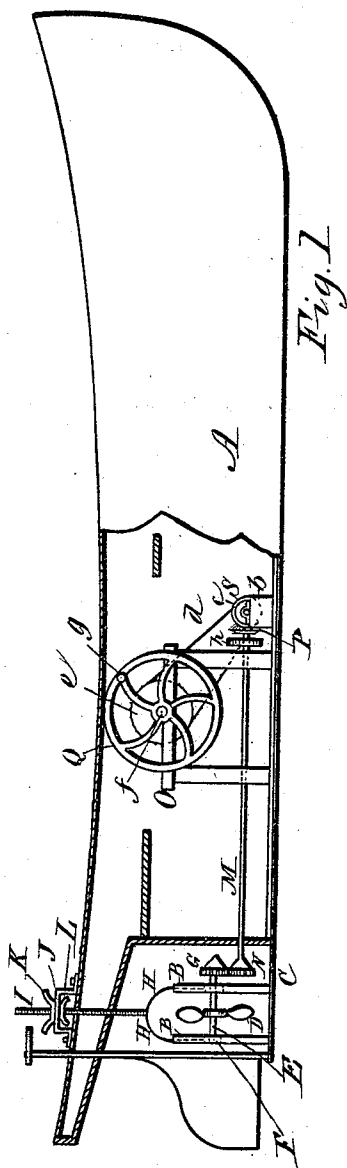
(No Model.)

W. H. THOMPSON.

APPARATUS FOR REVOLVING AND ELEVATING SCREW PROPELLERS.

No. 496,495.

Patented May 2, 1893.



Witnesses
Jas. Gadsby
C. M. Kay.

Inventare
 Ann H. Thompson
 By W. Bruce app^{ts}

UNITED STATES PATENT OFFICE.

WILLIAM HENRY THOMPSON, OF HAMILTON, CANADA, ASSIGNOR OF ONE-HALF TO GEORGE MORRIS, OF SAME PLACE.

APPARATUS FOR REVOLVING AND ELEVATING SCREW-PROPELLERS.

SPECIFICATION forming part of Letters Patent No. 496,495, dated May 2, 1893.

Application filed August 5, 1892. Serial No. 442,289. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY THOMPSON, a citizen of the Dominion of Canada, residing at the city of Hamilton, in the county of Wentworth, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Apparatus for Revolving and Elevating the Screw-Propellers of Boats; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being made to the accompanying drawings, in which—

Figure 1 is a side elevation of a boat embodying my invention. Fig. 2 is a plan of the same. Fig. 3 is a partial side elevation showing screw elevated. Fig. 4 represents end of screw frame.

One object of my invention is to provide a simple means for propelling boats with the ordinary screw propeller by hand, without the expenditure of much muscular labor, and dispensing entirely with rowing and the skill required to row.

Another object of my invention is to provide a simple and durable means by which the propeller may be raised entirely out of the water and disconnected from its operating mechanism, without necessitating previous disconnection or removal of any of the parts of the apparatus.

To these ends the invention consists in certain peculiarities in the construction, arrangement and combination of the several parts substantially as hereinafter described and particularly pointed out in the subjoined claims.

In the drawings A, represents a boat.

B B are double grooved iron uprights attached to the horizontal base piece C.

D is the screw propeller wheel keyed on a short shaft E which passes through bearing blocks F, F, said bearing blocks being so arranged as to be capable of sliding vertically in the grooves of the uprights B. B. and carrying the shaft and wheel along with them when it is being elevated out of the water. The said blocks F, F, cannot go down farther than the position shown but can be moved upward to raise the wheel.

G is a vertical pinion (having its inner side

formed cone shaped to cut the water with the least resistance) keyed on the inside end of the short wheel shaft E.

H. H is a yoke or frame attached at its lower end to the bearing blocks F, F, and having attached to its upper end a rod I which is screw threaded and made to pass up through the rear deck floor of the boat, and also through an iron bracket J, bolted to the boat. A screw threaded handle K is screwed on the top of the rod I and a smaller one L on the under side, this device (or any equivalent one) secures the screw shaft and screw wheel in the proper place for operating, and also allows a ready means of admitting the screw and its shaft to be elevated out of the water when necessary, as for sailing, &c.

The device for driving the screw may be described as follows, for a steam launch, steam may be used in the ordinary way, the drawings show how the wheel can be operated by hand. M is the main driven shaft in the hull of the boat projecting out through the stem in the usual manner through packing, and on the outer end of it is keyed a vertical pinion N (the inner side of it being cone-shaped) made to engage with the corresponding pinion G on the screw shaft E when the screw is operating, but not when the screw is elevated. On the opposite or inner end of the main shaft M which is held in suitable framework O, is keyed a bevel pinion P, and made to mesh into a corresponding bevel pinion S, keyed on a short shaft *a*, placed at right angles to the shaft M. on bearings *b, b*. A small chain wheel *c*, is keyed on the same shaft, over which runs a chain belt *d*, passing thence around a larger chain pulley *e* keyed on the short shaft *f* journaled on the framework O. There are two fly or drive wheels Q. Q also keyed on the said shaft *f*, provided each with a handle *g* for turning the wheels and driving the gearing. A small fly wheel *h*, is keyed on the shaft M to assist in propulsion. Steam or other motive power of course can be applied to the shaft M if required, the object being to use sails when the wind is favorable and at that time the screw is elevated out of the water so as not to impede the sailing of the boat. When there is no wind, or a con-

trary one, the boat can be propelled by the screw being lowered in its frame and operated by hand, as shown.

Importance is attached to the fact that the inner ends of the pinions G and N are cone-shaped, because, as above stated, when thus constructed they offer but little resistance to the progress of the boat. It will be observed that as the engagement of the propeller shaft, E, with the main driven shaft, M, is by vertical pinions, the necessity for removing or disconnecting any of the parts of the apparatus to permit said propeller shaft to be raised and disconnected from its operating mechanism when sails, or other means other than the screw propeller, is to be used to propel the boat, is obviated.

Having thus described my device and its advantages, what I claim as my invention, and desire to secure by Letters Patent, is—

1. In a means for propelling boats, the combination of the screw propeller, mounted on a shaft, a vertical pinion on the end of said shaft, said pinion having a cone-shaped inner end, a main driven shaft, a vertical pinion on the end thereof, said pinion being designed to mesh with the pinion on the end of the propeller shaft and having a cone-shaped inner end, and means for operating said driven shaft.

2. In a means for propelling boats, the combination with the screw propeller, mounted on a shaft, a vertical pinion on the end of said shaft, said pinion having a cone-shaped inner

end, a main driven shaft, and a vertical pinion on the rear end thereof, said pinion being designed to mesh with the pinion on the end of the propeller shaft, and having a cone-shaped inner end, of, a fly-wheel mounted on said main driven shaft, a bevel pinion on the forward end of said shaft, a counter shaft, a bevel gear thereon engaging said bevel pinion, a chain wheel also mounted on said counter-shaft, a shaft, *f*, a chain wheel thereon, an endless chain-belt connecting said chain wheels, and cranks for operating said shaft *f*.

3. In a means for propelling boats, the combination of the screw propeller, mounted on a vertically-adjustable shaft, a vertical pinion on the end of said shaft, a main driven shaft, and a vertical pinion on the end thereof, said pinion being designed to mesh with the pinion on the end of the propeller shaft, with a yoke or frame having its lower end connected with said propeller shaft, a screw-threaded rod projecting upward from the upper ends of said yoke or frame, a bracket through which said threaded rod passes, and threaded handles on said threaded rod above and below the top of said bracket, substantially as shown and described.

Dated at Hamilton, Ontario, Canada, this 30th day of June, 1892.

WILLIAM HENRY THOMPSON.

In presence of—

WM. BRUCE,

HERBERT FULTON.