

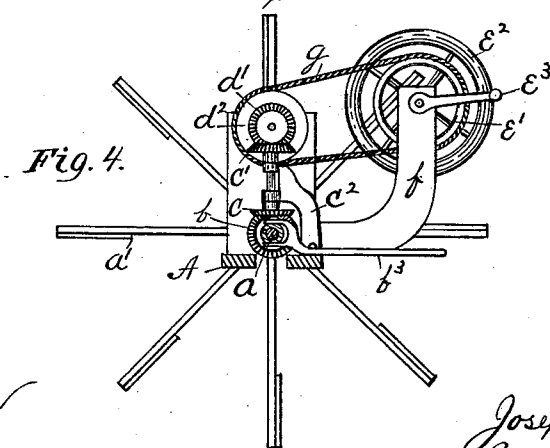
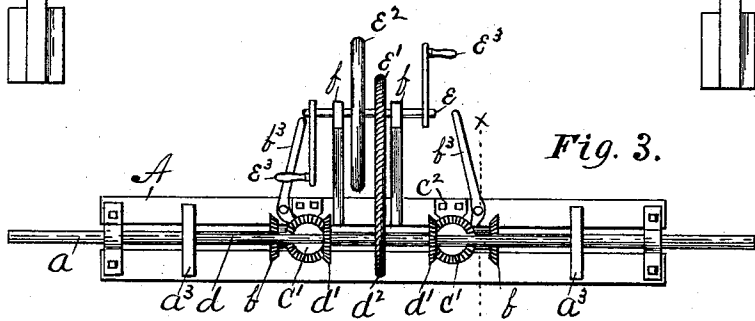
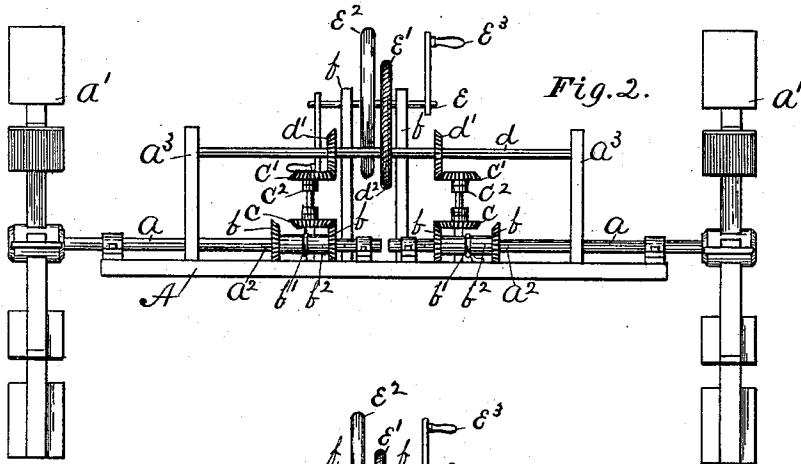
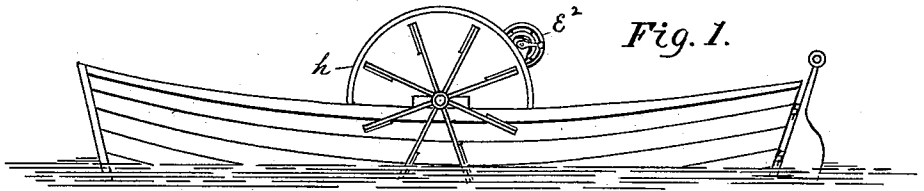
(No Model.)

J. C. THOMAS.

PADDLE WHEEL MECHANISM FOR PROPELLING BOATS.

No. 520,944.

Patented June 5, 1894.



Witnesses
Fred A. Mason
S. E. Bain

Inventor
Joseph C. Thomas
by H. M. Mason atty.

UNITED STATES PATENT OFFICE.

JOSEPH C. THOMAS, OF NEW BEDFORD, MASSACHUSETTS.

PADDLE-WHEEL MECHANISM FOR PROPELLING BOATS.

SPECIFICATION forming part of Letters Patent No. 520,944, dated June 5, 1894.

Application filed January 22, 1894. Serial No. 497,616. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH C. THOMAS, a citizen of the United States, residing at New Bedford, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Mechanism for Operating Paddle-Wheels for Propelling Boats, of which the following is a specification.

The object of my invention is to provide means whereby the motion of the paddle wheels of a boat may be reversed, caused to turn in opposite direction with each other at the same time, or turn in either direction independently of each other, without reversing or stopping the propelling power; and also to provide a mechanism which can be easily placed across the gunwales of a small boat to propel it; and can be as easily removed.

To this end my invention consists in the device illustrated in the accompanying drawings, in which—

Figure 1. represents a side view of a small boat provided with my invention, and having guards for the wheels. Fig. 2. is a front view of my improved mechanism as it appears when removed from the boat. Fig. 3. is a top view of the same, without the paddle-wheels. Fig. 4. is a view in cross section through the line x, x , of Fig. 3.

Similar letters refer to similar parts in the several views.

A, represents the base, on which are mounted in bearings, the independent shafts a, a , with the paddle wheels a', a' , fixed to their outer ends. Said shafts are provided near their inner ends, with the splines a^2, a^2 , over which slide the sleeves b^2 , to which sleeves are secured the bevel gears b , which gears, by means of the splines, revolve with the shaft a , and are also capable of movement lengthwise of the shafts.

c^2, c^2 , are stands secured to the base A, in which are mounted upright shafts, bearing the bevel gears c , and c' ; the gears c , being so placed, that the gears b , may be brought in contact with them.

From the base A, rise the uprights a^3 , in which is mounted the shaft d , provided with the bevel gears d' , which gears mesh with the gears c' . The shaft d is further provided with the chain or band wheel d^2 , and motion is communicated to the shaft d , by a chain or

band, connecting the wheel d^2 , and a wheel e' which is mounted on a shaft e , having bearings in uprights f , and provided with cranks e^3 . e^2 , is a balance wheel on said shaft e .

b^3, b^3 , are levers, pivoted to the base A, and provided with forks adapted to embrace the sleeves b^2 , whereby said sleeves, and gears b , secured to them, are moved longitudinally on the shafts a .

The operation of the device, when applied to a small boat as illustrated in Fig. 1, is as follows:—The base A, being placed across the gunwales of the boat and secured thereon, the operator takes his place behind the wheel e' , and revolves the same by means of the cranks e^3 . To propel the boat in a forward direction, the sleeves b^2 , are both moved inward by means of the levers b^3 , until the outer gears b , on said sleeves, mesh with the gears c . This causes both paddle wheels, to revolve in a forward direction. To turn the boat around, as on a pivot, one of the levers b^3 , is thrown in the opposite direction, until the inner gear b , on one of the sleeves b^2 , meshes with the gear c . This causes one paddle wheel to revolve in an opposite direction to the other, and the boat to turn as on a pivot. To propel the boat to the rear, both sleeves are moved outward, as is shown in Fig. 2, which causes both paddle wheels to revolve backward. To cause one paddle wheel to revolve, while the other remains at rest, one of the sleeves is moved, so that neither of the gears secured to it, meshes with a gear c .

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

1. In combination with a boat, the paddle wheels a' , mounted on independent shafts a , the sleeves b^2 , having the bevel gears b, b , adapted to be shifted longitudinally on said shafts a , and revolve with them; the bevel gears c , and c' , mounted on shafts having their bearings in stands c^2 , with the gear c , adapted to mesh with either of the gears b , at certain times; a shaft d , mounted in bearings, and bearing bevel gears d', d' , adapted to mesh with the gears c' ; and means to revolve said shaft d , all as shown and for the purpose described.

2. A boat propelling apparatus, mounted on a base, adapted to rest across the gunwales of

a boat, and be removably secured thereto, consisting of the paddle wheels a' , mounted on independent shafts a ; the sleeves b^2 , one on each shaft, provided with bevel gears b , and adapted to be shifted longitudinally on said shafts, and to revolve therewith; the gears c , and c' , mounted on shafts, having their bearings in stands c^2 ; a shaft d , mounted in bearings, and bearing bevel gears d' , d'' , adapted to mesh with the gears c' , and provided with the chain or band wheel d^2 ; a shaft e , mounted in bearings f , and provided with cranks e^2 , and a chain, or band wheel e' , connected with the wheel d^2 , on the shaft d , by a chain or band, all as shown and for the purpose described.

JOSEPH C. THOMAS.

Witnesses:

HENRY W. MASON,
S. E. BAIN.