P. BOISSET.
Propelling Vessels.

No. 208,952. Patented Oct. 15, 1878.

Fig: 1.

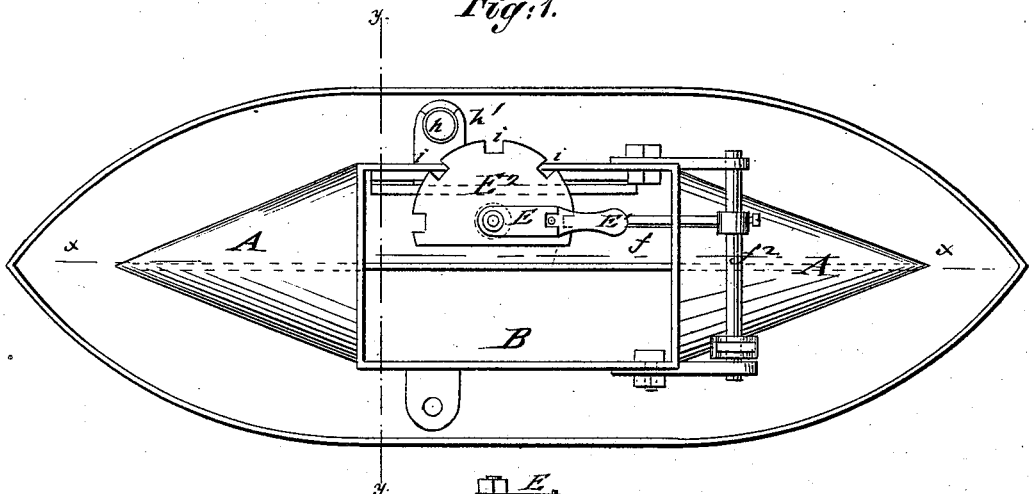


Fig: 2.

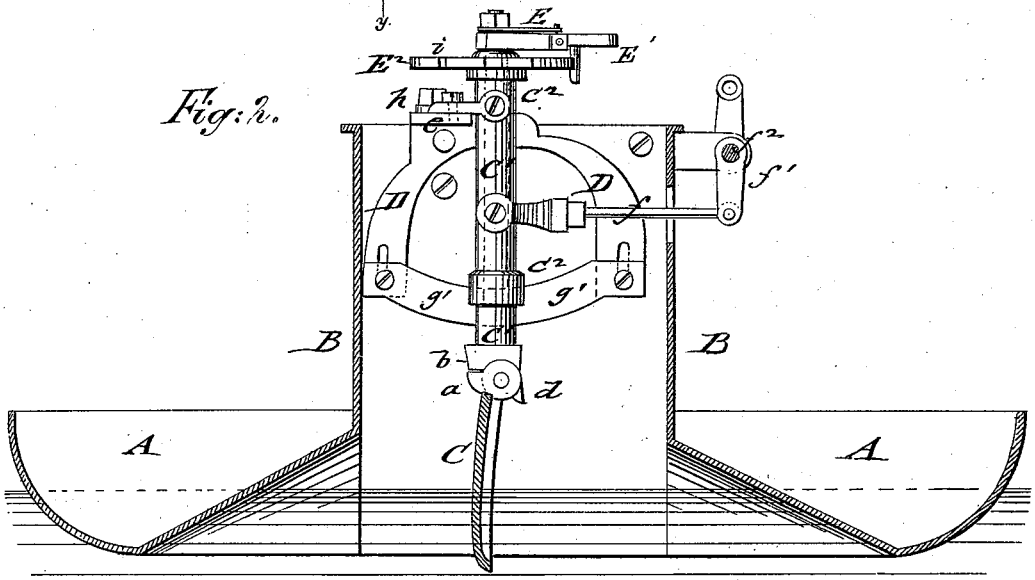
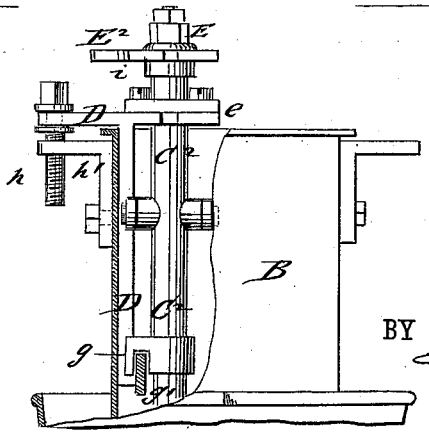


Fig: 3.



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PETER BOISSET, OF NEW YORK, N. Y.

IMPROVEMENT IN PROPELLING VESSELS.

Specification forming part of Letters Patent No. **208,952**, dated October 15, 1878; application filed May 29, 1878.

To all whom it may concern:

Be it known that I, PETER BOISSET, of the city, county, and State of New York, have invented a new and useful Improvement in Propelling Vessels, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a top view, Fig. 2 a vertical longitudinal section on line *x x*, Fig. 1, and Fig. 3 a vertical transverse section on line *y y*, Fig. 1, of my improved device for propelling vessels.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish for canal-boats and vessels of all kinds an improved propelling device, which is protected against injury from rough weather, ice, or other obstructions, reliable and effective in action, and by which the vessel may be steered in every direction or reversed with great facility.

The invention consists of one or more feathering-paddles, that are hinged to the lower ends of guided and oscillating arms, which are operated by suitable crank-rod connections with an oscillating crank-shaft. The swinging arms may be axially adjusted in suitable bearings by a spring-acted lever, pawl, and notched disk, so that the paddles may be adjusted at any angle or direction. The supporting and guiding frames of the paddle-arms may be raised or lowered by suitable mechanism to raise or lower the paddles out of or into the water.

Referring to the drawing, A represents a canal-boat or other vessel, which is arranged at the middle portion with a bottom opening and a central inclosing frame or casing, B, that forms a kind of well, in which the paddles C are arranged for work.

If desired, the paddles may also be arranged at the sides of the vessel; but it is preferable to arrange them in a central well, so as to protect them against injury by the power of the waves or by ice or other obstructions.

One or more paddles, C, may be arranged according to the speed desired. If more than one is used, they are constructed so as to work alternately with each other. Each paddle C is hinged to the lower end of an oscillating shaft, C^1, and provided at the upper rear part with a projecting shoulder or stop, *a*, that forms contact with a shoulder, *b*, of the arm when the paddle passes through the water for propulsion. A fixed and beveled lug, *d*, of the shaft C^1, in front of the paddle, stops the hinged and feathering paddle when it is passed in opposite direction in horizontal position, or nearly so, through the water. The paddle offers thereby no resistance to the water in its return motion, being made feathering and acting with full force on the water when moved in one direction, and clearing the same when moved in the opposite direction.

The oscillating shaft C^1 of the paddle turns in a sleeve, C^2, which is hung to a horizontal top bearing, *e*, of an adjustable guide-frame, D, that is applied by means of guide-slots and screws to the frame or casing of the vessel. The sleeve C^2 is connected at the middle portion by a crank-rod, *f*, with a crank, f^1, of an oscillating crank-shaft, f^2, that receives its motion from the engine of the vessel and imparts an oscillating motion to the paddle-arm. The lower end of the oscillating paddle-arm C^1 is guided by a recessed guide-lug, *g*, along an arc-shaped guide-piece, *g'*, of the frame D, so as to steady the motion of the paddle-arm. The guide and supporting frame D is adjusted vertically on its guide-bolts by an adjusting-screw, *h*, and fixed bracket-support *h'*, so as to lower or raise the paddles and cause them to dip at greater or less depth into the water.

The oscillating paddle-shaft C^1 is connected at the upper end to a hand-lever, E, by which the shaft C^1 and paddle C may be set to any desired inclination to the longitudinal axis of the vessel or reversed entirely. The hand-lever is provided with a spring-pawl, E^1, that locks into radial notches *i* of a fixed disk, E^2, so as to secure the paddle and paddle-shaft rigidly in the required position. By setting the paddle into sidewise-inclined position the vessel may be steered to either side, forward or back, while by swinging the paddle entirely around its axis the direction of motion may be entirely reversed. The paddles serve thus both for propelling and steering purposes, and admit of any desired power and speed by

increasing the size and number of the paddles and the velocity of the oscillating motion of the paddles.

The paddle is adapted for canal-boats, as there is little or no washing of the banks, and also for ocean and inland navigation, as the paddles are less exposed to injury than the present paddle-wheels and screw-propellers.

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

1. A device for propelling and steering vessels consisting of paddle-shaft with supporting-sleeve and one or more feathering-paddles, hinged to guided vertically and axially adjustable oscillating paddle-shafts, substantially as and for the purpose described.

2. The combination of the oscillating paddle shaft or spindle and exterior guide-sleeve, having guide-lug, with a vertically-adjustable guide and supporting frame, having arc-shaped guide-piece, substantially as and for the purpose described.

3. The combination, with the notched arc-plate and lever, having spring-pawl, of the oscillating paddle-shaft, with an outer sleeve and with lever and locking mechanism for axially turning the shaft and setting the paddle to any suitable inclination to the longitudinal axis of the vessel, substantially as specified.

PETER BOISSET.

Witnesses:
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