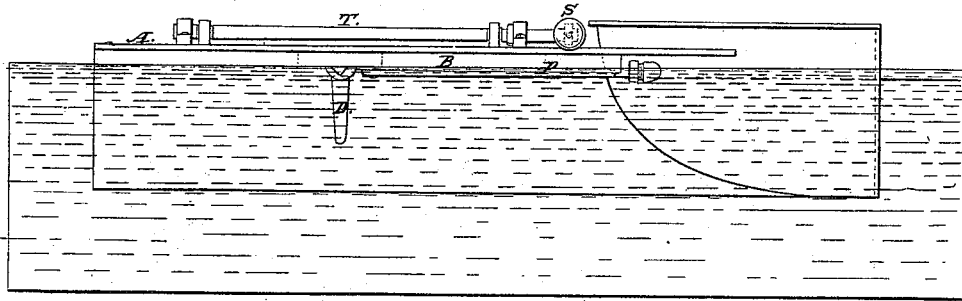


*M. Depuy.*  
*Vibrating Propeller.*

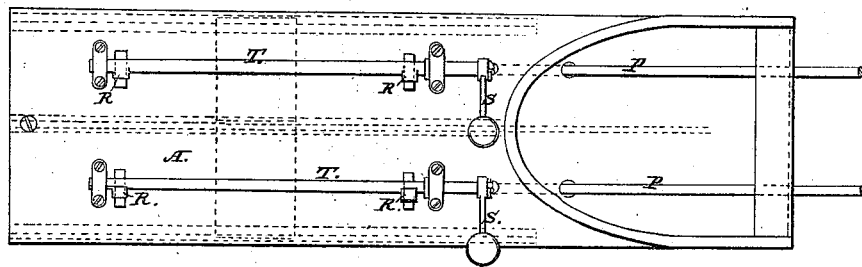
*N<sup>o</sup> 49,095.*

*Patented Aug. 1, 1865.*

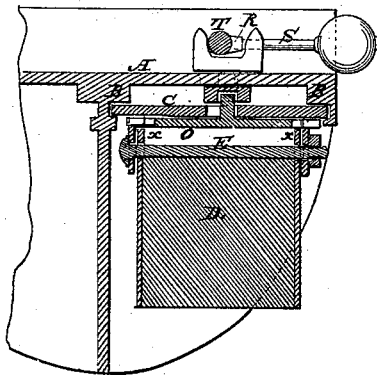
*Fig. 1.*



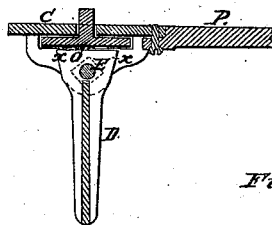
*Fig. 2.*



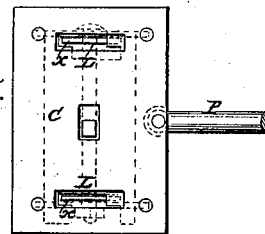
*Fig. 3.*



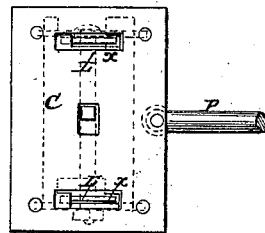
*Fig. 4.*



*Fig. 5.*



*Fig. 6.*



*Witnesses.*

*Chas. Williams Jr.*  
*Joshua W. Allen.*

*Inventor.*

*M. Depuy.*

# UNITED STATES PATENT OFFICE.

MOSES DEPUY, OF PITTSBURG, PENNSYLVANIA.

## IMPROVED RECIPROCATING PROPELLER.

Specification forming part of Letters Patent No. **49,095**, dated August 1, 1865.

*To all whom it may concern:*

Be it known that I, MOSES DEPUY, of the city of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in the Means of Propelling Vessels; and I do hereby declare that the following is a full, clear, and exact description of my invention, reference being had to the accompanying drawings, forming part of this specification, and to the letters of reference marked thereon.

The nature of my invention consists in attaching two or more paddles to the outside of a vessel and imparting thereto a rectilinear reciprocating motion, and so hinged as that the face of the paddles, when propelling, will stand perpendicularly, or nearly so, to the line of progression, and when returning, preparatory to the second stroke, will swing back so as to present only the edge of each paddle, and overcome as far as practicable all resistance offered by the water in their backward movement; also, in so constructing and attaching the paddles and frame in which they move to the outside of the vessel and in such relation to each other as that the action of the paddles may be changed or reversed by properly-constructed mechanism, so as to vary the course of the vessel without regard to the motion of the engines or propelling power.

To enable others to understand and make my invention, I will proceed to describe its construction by reference to the accompanying drawings, wherein—

Figure 1 represents a side view of the stem of a vessel, to which is attached an "overhang" for supporting and carrying the frames in which the paddles work; also an edge view of the same. Fig. 2 represents a top view of the overhang, on which is shown the cams and levers used in reversing the motion of the paddles. Fig. 3 is a cross-section of the overhang, giving a front view of one of the paddles and frame, also showing the reversing mechanism. Fig. 4 represents one of the paddles and frame detached. Figs. 5 and 6 represent a top view of the same.

All the drawings are lettered, and similar letters denote corresponding parts in the several views.

I construct my improved propeller by at-

taching to the hull of a boat a projecting frame or overhang, A, for the purpose of supporting two or more pairs of slides or guides, B, running parallel to the length of the vessel. Between each pair of these guides, and supported thereby, is a short frame, C, to which is hinged a paddle, D, by means of a long bolt, E, which allows it to swing forward or backward, as may be desired. The frames C, carrying the paddles D, are given a reciprocating movement in the guides B by means of a connecting-rod, P, which passes through the hull of the vessel and is attached to the engine or other moving power in the usual manner.

It will be observed that the edges of the paddles D at that part through which the bolt E passes are widened or spread out like a fan, so that whichever way the paddle swings the corners X of this enlargement will pass through and project above the slots L in the reciprocating frame. But in order to compel the paddles to maintain a vertical position when forcing the boat along, and at the same time allow them to swing back when recovering themselves for a repetition of the stroke, attached to the frames to which the paddles are pivoted are two sliding lock-bars, O, so constructed and arranged as to cross and close or open the slots L, as the case may require. To prevent the paddles from assuming the wrong position, these lock-bars O are slid across the slots L in the frame C by turning the lever S on the rock-bar T seen on the top of overhang A, which causes the cams R to move either the lock-bars O across the slot L in front of the paddle, as shown at Fig. 6, or by reversing the lever S they are thrown behind, as represented at Fig. 5.

It will be seen that whichever way the lock-bars O are set the widened part of the paddle D will, in its attempt to pass in that direction, strike against the lock-bar O, which holds it in a vertical position, while the other portion of the slot L will remain open, so as to admit the passage of the enlargement on the opposite side, which allows the paddle to swing in that direction only, when by reversing the position of the lever the lock-bars are changed, and with them the motion of the paddles, thus enabling the boat to be forced in either direction without regard to the action of the engineer, as hereinbefore stated.

Having thus briefly described my invention, what I claim is—

The employment and use of a swinging propeller attached to and operating directly on a line, or nearly so, with the piston of the engine, (without the intervention of a crank,) combined with a sliding frame working in an overhang attached to the outside of a vessel, when con-

structed, arranged, and operating substantially in the manner and for the purpose herein set forth.

MOSES DEPUY.

Witnesses:

JOSIAH W. ELLS,  
C. S. AMMOND.