

C. P. MACOWITZKY.
Propulsion of Vessels.

No. 146,009.

Patented Dec. 30, 1873.

Fig. 1.

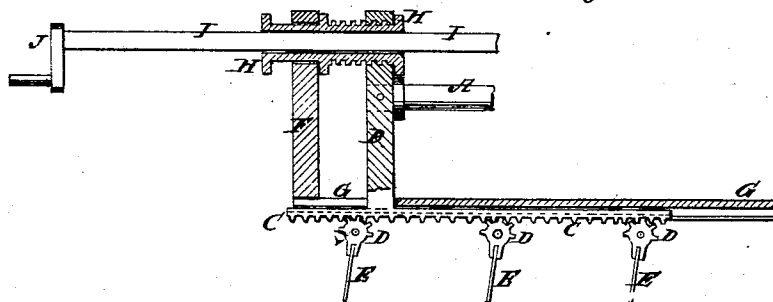


Fig. 3.

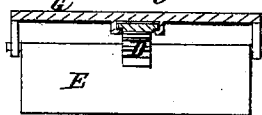
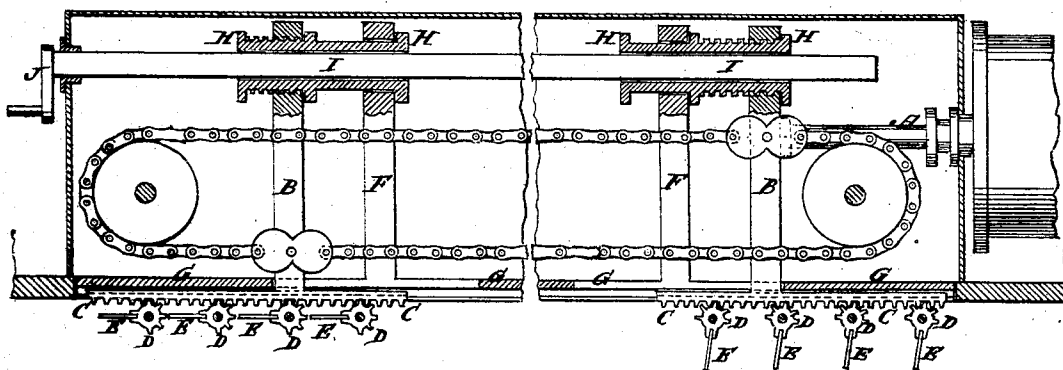


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES P. MACOWITZKY, OF CORPUS CHRISTI, TEXAS.

IMPROVEMENT IN THE PROPULSION OF VESSELS.

Specification forming part of Letters Patent No. **146,609**, dated December 30, 1873; application filed August 23, 1873.

To all whom it may concern:

Be it known that I, CHARLES P. MACOWITZKY, of Corpus Christi, in the county of Nueces and State of Texas, have invented a new and useful Improvement in Vibrating Propellers, of which the following is a specification:

Figure 1 is a detail longitudinal section of my improved device. Fig. 2 represents an arrangement of the device to adapt it to produce a continued action of the paddles upon the water, and for attachment to a line of boats. Fig. 3 shows the mode of pivoting or suspending the paddles.

Similar letters of reference indicate corresponding parts.

My invention has for its object to improve the construction of the device for which Letters Patent No. 135,994 were granted to me February 18, 1873, so as to make it simpler in construction, more convenient in use, more readily adjusted and controlled, and more effective in operation.

The invention consists in the combination of the sleeve or socket, made smooth upon one end, and threaded upon the other, and the square rod, with the arms, the sliding frame or plate, the rack-bar, the gear-wheels or segments, and the pivoted paddles, as hereinafter fully described.

A represents the piston-rod of a steam-engine, which rod is secured to or connected with an arm, B. The arm B passes through a slot in the bottom or side of the vessel, through a slot in the sliding frame or plate G, and is rigidly attached to or formed solid upon the rack-bar C. The rack-bar C is securely connected with and slides upon the plate or frame G. The teeth of the rack-bar C mesh into the teeth of the small gear-wheel or segment of a gear-wheel, D, attached to or formed upon the base of the paddle E, so that the said paddle may be projected and withdrawn by the movements of the said rack-bar C. The paddles E are pivoted to the sliding plate or frame G, so that they may be carried back and forth by and with said frame or plate in its movements. To the sliding plate or frame G is rigidly attached an arm, F, which projects upward parallel with and at a little distance from the arm B. H is a sleeve or socket, which has a screw-thread formed

upon one-half of its length, and the other half is left smooth. The smooth part of the sleeve H passes through a smooth hole in the upper part of the arm F, and the threaded part screws into a screw-hole in the upper part of the arm B. The sleeve H has flanges, nuts, or other stops upon its ends and center, to limit the movements of the said sleeve H in said arms B F. By this construction the arm B and rack-bar C will be first moved to adjust the paddles, and the rack-bar, paddles, and arms will then be moved together to make the stroke. I is a square rod, which passes through a square hole formed longitudinally in the sleeve H. By this construction, by turning the sleeve H by means of the square rod I, the arms B F, the sliding frame or plate G, and the rack-bar C will be so adjusted, with respect to each other and the piston-rod A, that the paddles E will be projected upon the forward or back stroke, as may be desired. The square rod I is turned to adjust the paddles E by a crank, J, a screw, or other convenient device.

If desired, two or more sets of the arms B F, sliding frame G, rack-bar C, and paddles D E may be applied to the same boat, the arms B being connected by an endless chain, which passes around pulleys pivoted to fixed supports attached to the boat. In this case, one of the arms B is attached to the upper part of the said endless chain, and the other to the lower part. By this arrangement one set of paddles will be projected to operate upon the water at each movement of the piston-rod A, so as to keep a set of paddles always operating upon the water. In propelling a train of boats they are placed end to end, and in line with each other, and are connected by endless chains, which are operated by the piston, as herein before described. In this case all the boats of the train, or only a part of them, may be provided with one or more sets of the propelling device, as may be desired.

An engine and set or sets of the propelling device may be placed at each side of the boat, and made entirely independent of each other, so that they may work together or separately, thus greatly facilitating the operation of turning and guiding the boat or boats. The rack-bar C may, if desired, be made double, so as to operate two sets of paddles. The paddles

may be placed at the bottom, sides, bow, or stern of the boat, as may be desired, or as circumstances may require.

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

The combination of the sleeve or socket H, made smooth upon one end and threaded upon the other, and the square rod I, with the arms

B F, the sliding frame or plate G, the rack-bar C, gear-wheels or segments D, and pivoted paddles E, substantially as herein shown and described, and for the purpose set forth.

CHARLES P. MACOWITZKY.

Witnesses:

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