A. E. TANGEN.

Propelling Apparatus for Vessels.

No. 216,470. Patented June 10, 1879.

Fig. 1.

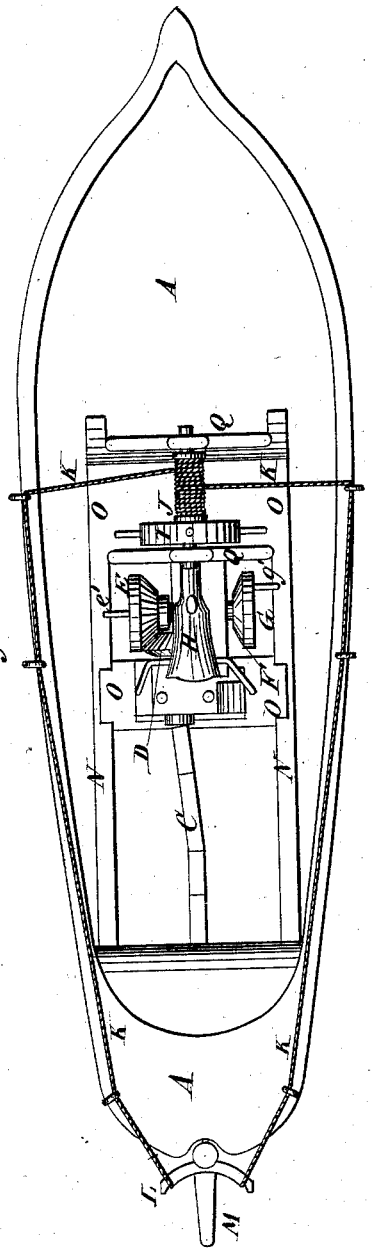
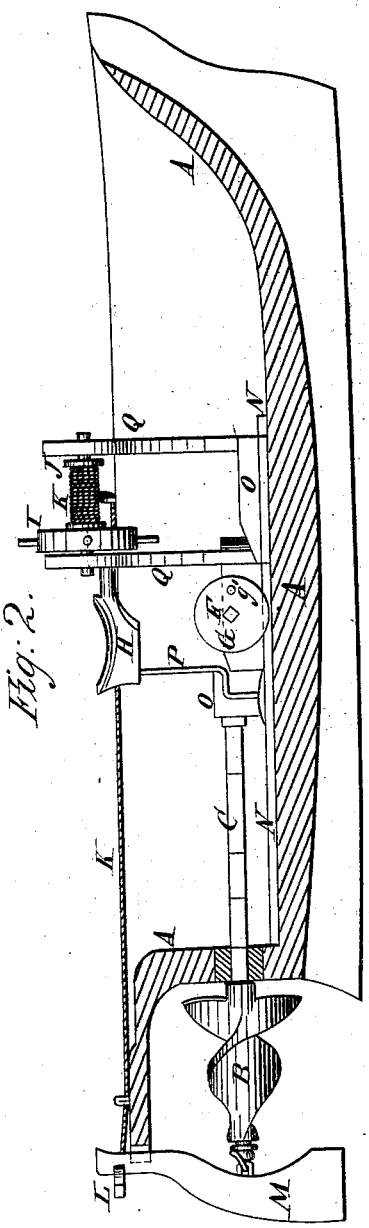


Fig. 2.



WITNESSES:

Achilles Schehl.

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UNITED STATES PATENT OFFICE.

ANDY E. TANGEN, OF BISMARCK, DAKOTA TERRITORY.

IMPROVEMENT IN PROPELLING APPARATUS FOR VESSELS.

Specification forming part of Letters Patent No. **216,470**, dated June 10, 1879; application filed March 26, 1879.

To all whom it may concern:

Be it known that I, ANDY E. TANGEN, of Bismarck, in the county of Burleigh and Territory of Dakota, have invented a new and useful Improvement in Propelling Apparatus for Vessels, of which the following is a specification.

Figure 1 is a top view of my improved apparatus, shown as applied to a boat. Fig. 2 is a side view of the same, the boat being shown in longitudinal section.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved apparatus for propelling boats and other vessels against the swift currents of rivers, and in other waters, which shall be simple in construction, convenient in use, and effective in operation, so that the boat or vessel can be propelled faster and with less outlay of power than when other means of propulsion are used, and which shall be so constructed that the propelling mechanism can be moved forward or back, as the loading of the boat may require.

The invention consists in a propelling mechanism mounted upon a frame sliding on ways, and provided with a sectional propeller-shaft, as hereinafter described.

A represents the hull of a boat or vessel, about the construction of which there is nothing new. B is the propelling-screw, which is made long and tapering, as shown in Fig. 2. The longer the screw B is made and the shorter the twist, the greater will be the power exerted by it.

The screw B is attached to a shaft, C, which passes in through a bearing in the stern of the hull A, and to its forward end is attached a bevel-gear wheel, D, the teeth of which mesh into the teeth of a bevel-gear wheel, E, attached to the end of the driving-shaft F. To the other end of the shaft F is attached a wheel, G, of the same size and weight as the gear-wheel E.

To the outer sides of the wheels E G are attached crank-pins *e' g'*, to receive the feet of the operator, who sits upon a saddle, H, and grasps the spokes of the spoke-wheel I, attached to the end of the axle J. To the axle J are attached the ends of two cords or rudder-lines, K, which are wound in different directions around it. The cords K are lead through eyes or other guides attached to the gunwale of the hull A, and their other ends are attached to the ends of the cross-bar L, attached to the upper end of the rudder M, which is pivoted to the stern of the hull A and to the rear end of the propeller-shaft C.

To the hull A are attached timbers or ways N, upon which rests and slides a frame, O. To the frame O are attached the bearings for the forward part of the shaft C and for the driving-shaft F, the lower end of the support P for the rear end of the saddle H, and the lower ends of the two upright frames Q, to and between which the wheel and axle, I J, are pivoted.

The propeller-shaft C is made in parts or sections, coupled to each other detachably, so that the said shaft may be lengthened or shortened, to allow the frame O and its attachments to be moved forward or rearward, as the loading of the boat may require.

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

A boat-propelling mechanism mounted upon a frame, O, sliding upon ways N, and provided with a sectional propeller-shaft, C, substantially as herein shown and described.

ANDY EVENSEN TANGEN.

Witnesses:
JOHN E. MORRISSON,
LEWIS JOHNSON.