No. 695,717. Patented Mar. 18, 1902.

G. W. GARDINER.

PROPELLER GEAR.

(Application filed May 28, 1901.)

(No Model.)

Fig 1

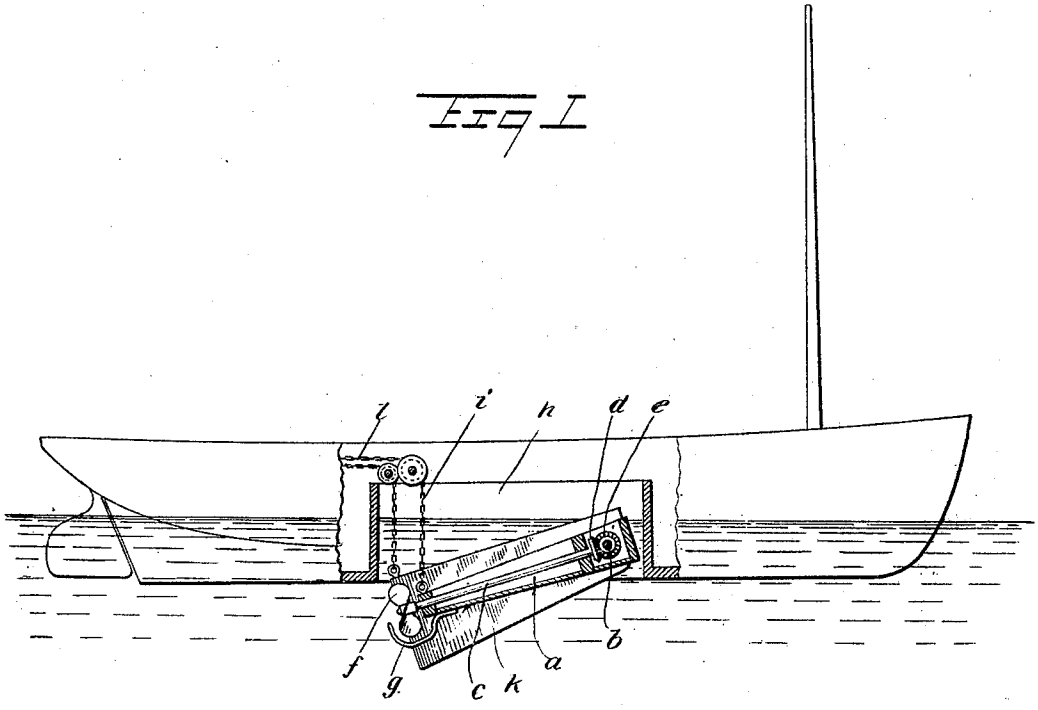
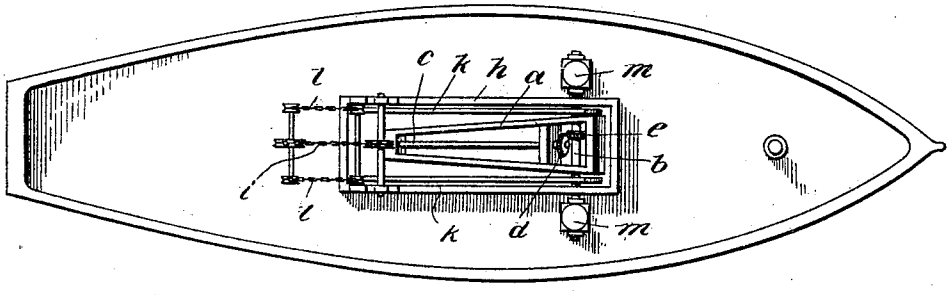


Fig 2



WITNESSES:

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F. B. Owens.

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BY

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UNITED STATES PATENT OFFICE.

GEORGE WASHINGTON GARDINER, OF PHILADELPHIA, PENNSYLVANIA.

PROPELLER-GEAR.

SPECIFICATION forming part of Letters Patent No. 695,717, dated March 18, 1902.

Application filed May 28, 1901. Serial No. 62,254. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WASHINGTON GARDINER, a citizen of the United States, and a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Propeller-Gear, of which the following is a full, clear, and exact description.

This invention relates to a propeller-gear which comprises a frame arranged in a trunk formed in the vessel and adapted to be lowered below the bottom of the vessel, so as to properly place the propeller in the water.

The invention is applicable to vessels of all kinds, and if applied to a centerboard vessel the trunk carrying the centerboard may be enlarged, so as to receive also the propeller-gear, and one or more centerboards may be employed, as desired.

This specification is a specific description of one form of the invention, while the claims are definitions of the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both views.

Figure 1 is a side view with parts broken away, showing my invention applied as an auxiliary to a sailing vessel; and Fig. 2 is a plan view of the invention.

a represents the frame, which carries the propeller and is arranged to swing around the axis of a transverse shaft *b*. The frame carries the propeller-shaft *c*, the forward end of which has a gear *d* meshing with a gear *e* on the shaft *b*, which therefore serves not only as a means of hanging the frame *a*, but also as the drive-shaft.

f represents the propeller, which is carried on the after end of the shaft *c*, and *g* indicates a guard which is fastened to the frame *a* and passes under the propeller, so as to prevent it from coming in contact with the ground and also to fend off any floating objects which might become entangled in the propeller.

The frame *a* is fitted in a suitable trunk *h*, formed in the vessel, and the frame is provided with a chain or other device *i*, by which it may be raised or lowered at will. By lowering the frame *a* the propeller will be in operative position, and upon driving the shaft *b* the vessel itself will be driven ahead. By raising the frame *a* up wholly within the trunk *h* the propeller will be out of active position and it will be protected on all sides from injury and will not impede the progress of a vessel under sail.

I have here shown the propeller-gear as applied to a sailing vessel, and in this case the trunk *h* carries also the centerboard. With the arrangement here shown I prefer to employ two centerboards, which are here designated *k*. These centerboards may be hung loosely on the shaft *b* and provided with a suitable tackle *l* for raising and lowering them, so that the centerboards may be used independently or jointly, as desired. If preferred, one centerboard and one propeller may be employed, or the propeller-gear may be duplicated and arranged one on each side of the single centerboard.

I desire it distinctly understood that the invention is not necessarily used in connection with a centerboard vessel. It is applicable to vessels of all kinds; but I consider it especially advantageous in the connection shown in the drawings. The shaft *b* may be driven in any suitable manner, either by motive or manual power. In Fig. 2, *m* may represent two motors of any sort, which are arranged at the sides of the trunk *h* and coupled with the shaft *b* to drive it.

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

1. The combination with a marine vessel having a trunk therein, of a frame mounted in the trunk and movable downward to a point below the vessel, a propeller-gear carried in the frame, and a centerboard working in the trunk independently of the said frame.

2. The combination with a marine vessel having a trunk therein, of a frame mounted in the trunk and movable downward to a point below the vessel, a propeller carried by the frame, and a centerboard working in the trunk independently of said frame.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE WASHINGTON GARDINER.

Witnesses:

GEORGE W. RUE,

JOHN H. HUDSON.