

(No Model.)

M. O. PARKER.

APPARATUS FOR PROPELLING AND STEERING VESSELS.

No. 450,677.

Patented Apr. 21, 1891.

Fig. 1.

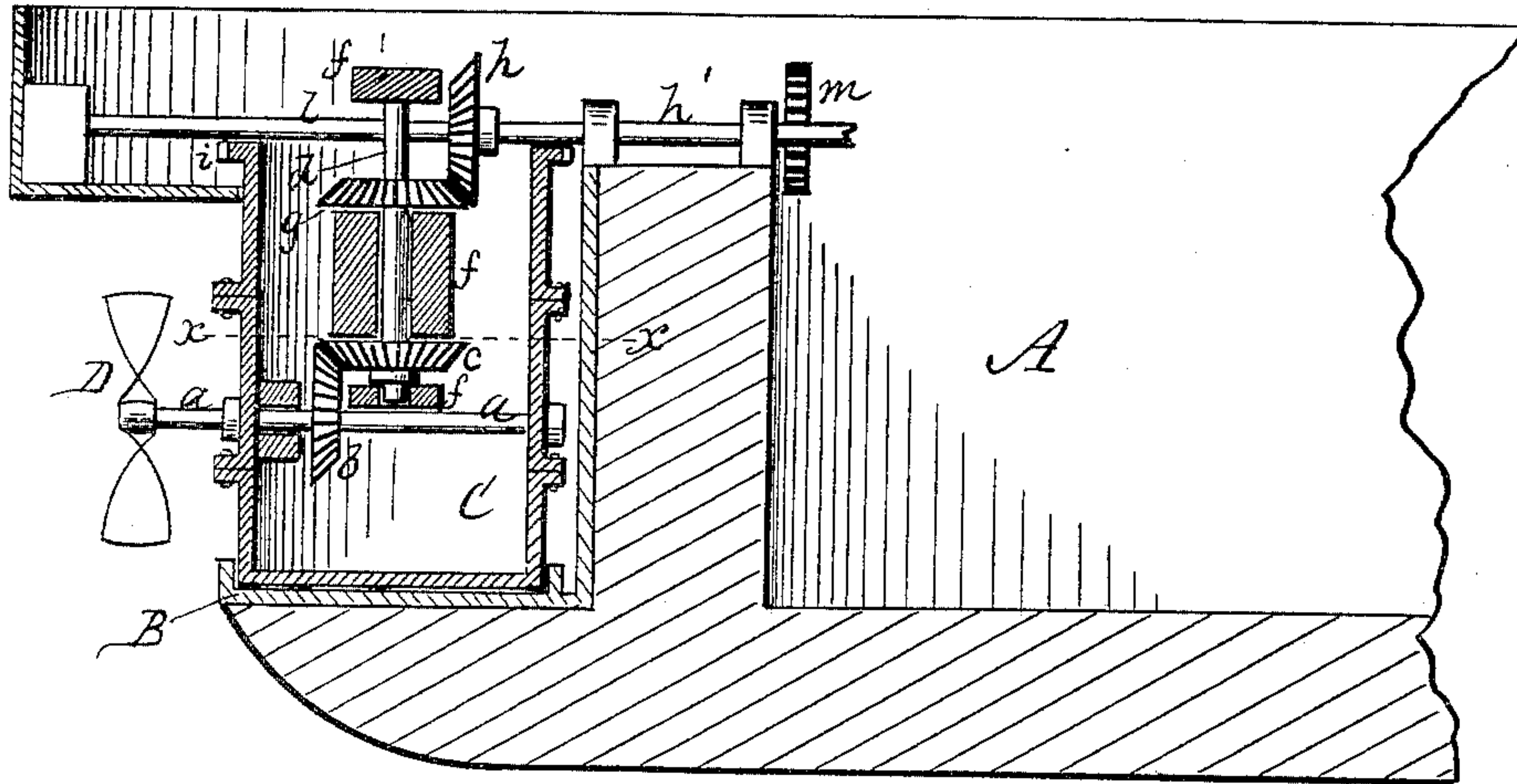


Fig. 2.

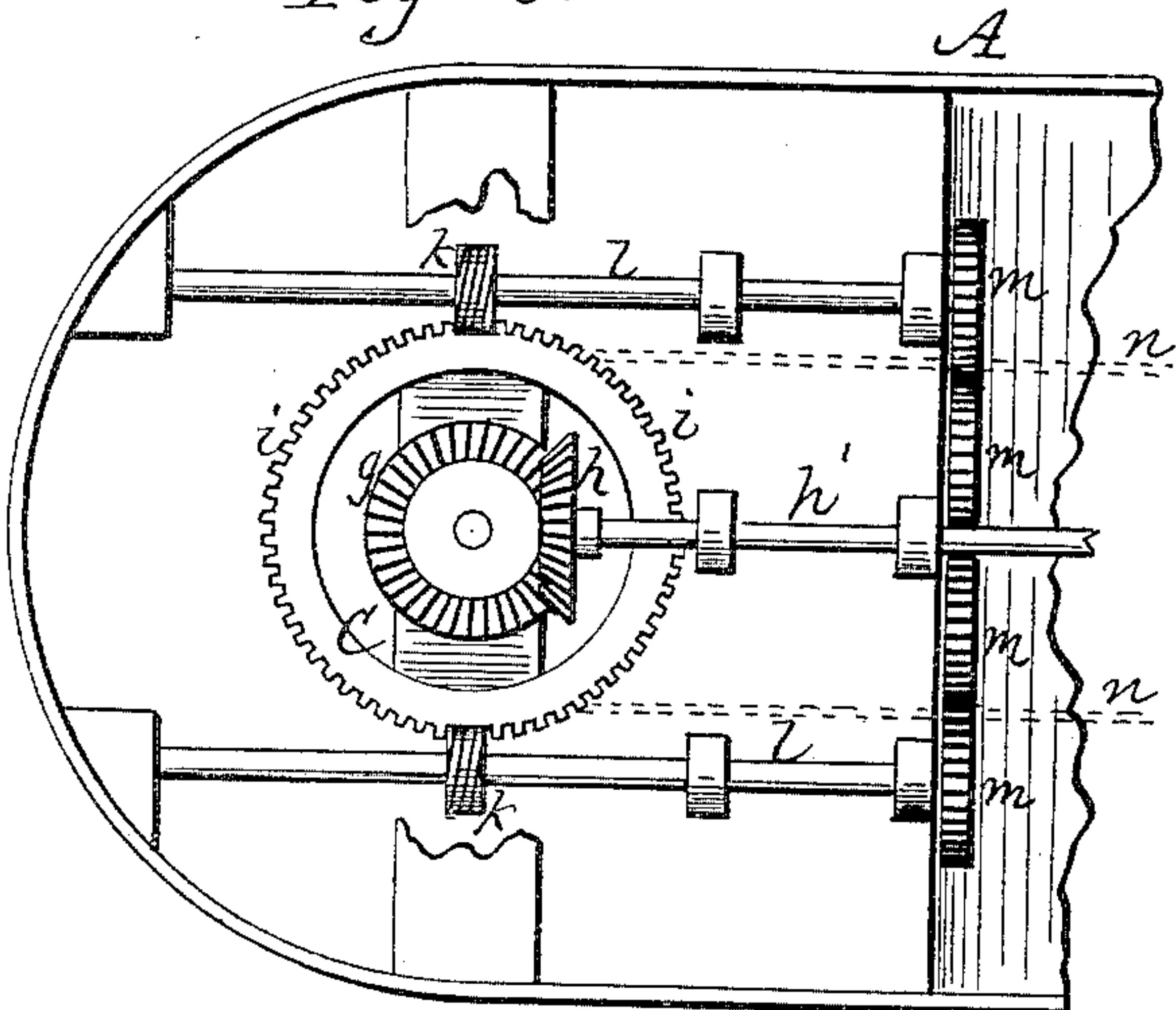


Fig. 3.

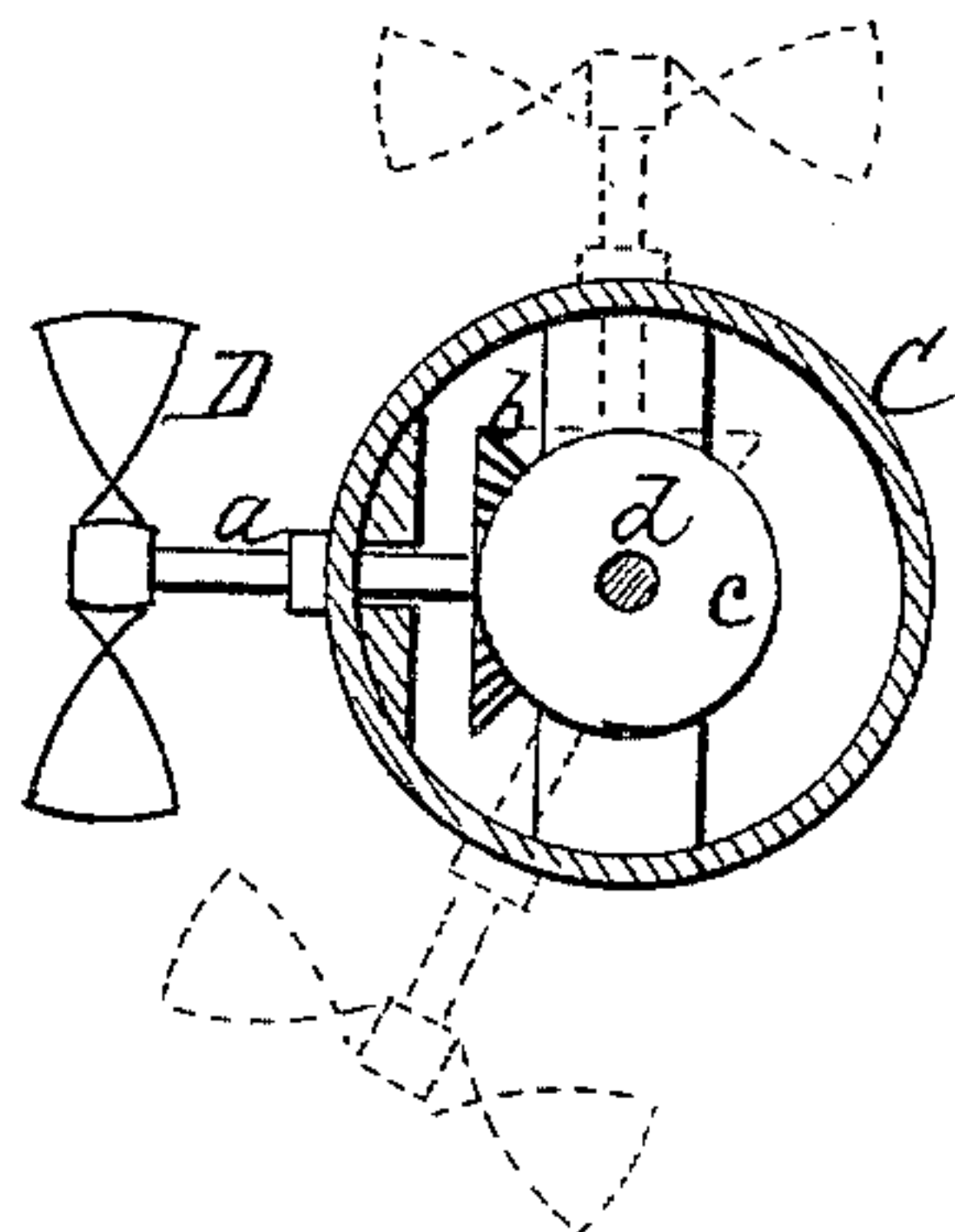
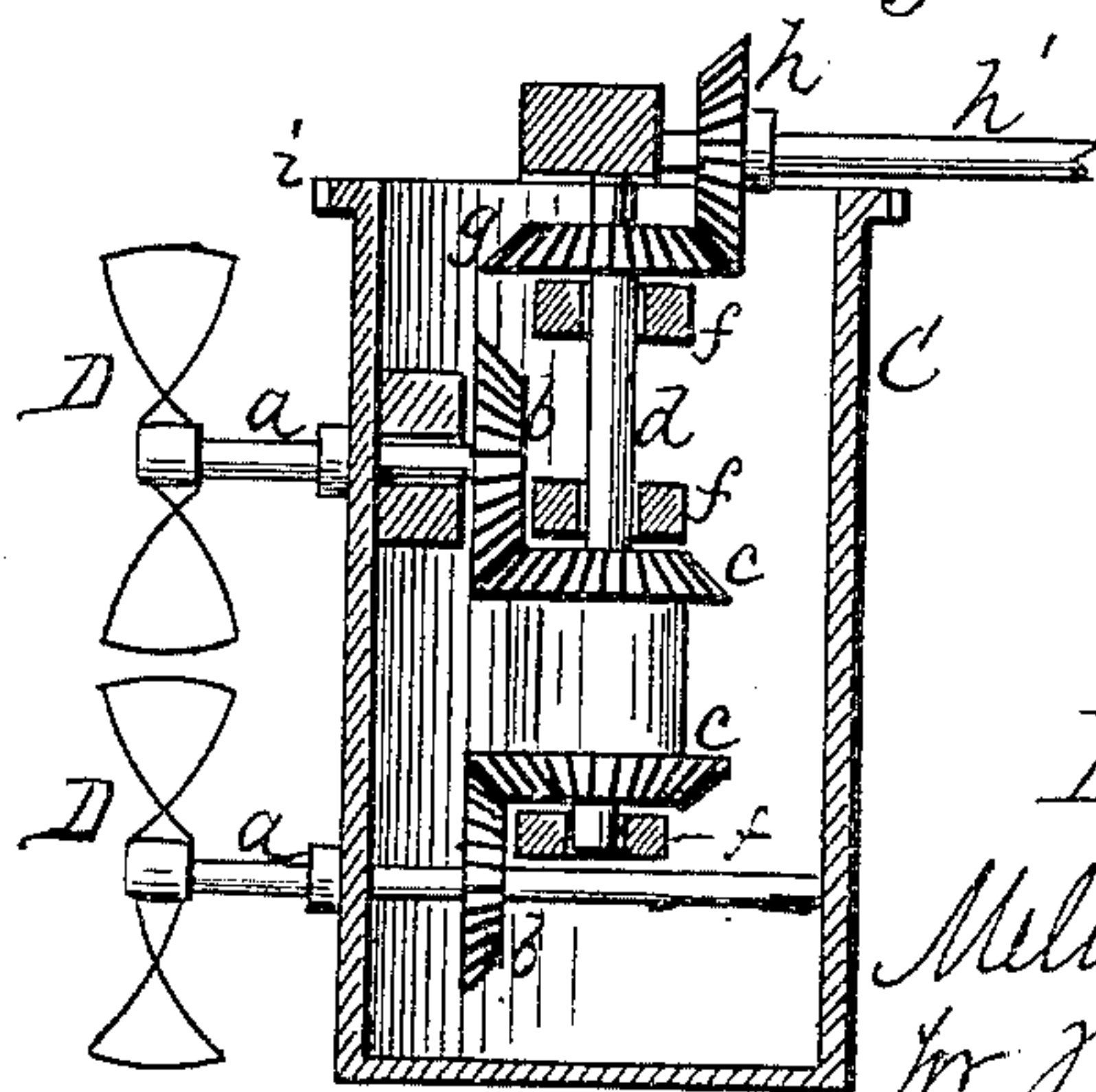


Fig. 4.



Attest.

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MELVIN O. PARKER, OF ROCHESTER, NEW YORK.

APPARATUS FOR PROPELLING AND STEERING VESSELS.

SPECIFICATION forming part of Letters Patent No. 450,677, dated April 21, 1891.

Application filed August 9, 1888. Serial No. 282,383. (No model.)

To all whom it may concern:

Be it known that I, MELVIN O. PARKER, of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Apparatus for Propelling and Steering Vessels; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings accompanying this specification.

My improvement relates to apparatus for propelling and steering vessels, and is of that kind where the propeller itself acts as the rudder by being turned or deflected to one side of the right line in which the vessel moves forward.

The invention consists in the construction and arrangement hereinafter definitely described and claimed.

In the drawings, Figure 1 is a central longitudinal vertical section of the rear portion of a vessel, showing my improvement applied thereto. Fig. 2 is a plan view of the same. Fig. 3 is a horizontal cross-section of the cylinder in line *xx* of Fig. 1. Fig. 4 is a longitudinal vertical section of the cylinder, showing a modification.

A indicates the rear portion of a vessel, and B is a shallow socket or seat therein which supports the cylinder.

C is the cylinder, set upright in the socket B and capable of free rotary motion. The bottom of the cylinder is closed to exclude water, but the top is open to admit the working parts.

D is a propeller of usual form, having a shaft *a*, which passes into or through the cylinder and has its bearings therein, being arranged to turn freely, in whatever position it may rest, when carried around by the rotation of the cylinder.

b is a bevel-gear on shaft *a*, which engages with a corresponding bevel-gear *c* on a vertical shaft *d*, that rests in suitable bearings *ff* and extends up through the top of the cylinder.

On the upper end of shaft *d* is a bevel-gear *g*, that engages with a similar gear *h*, attached to the driving-shaft *h'*. The driving-shaft receives motion from any suitable source. It will be seen that by the use of this arrangement the propeller can be constantly driven

independent of the motion of the cylinder, as the gears will in no wise be impeded by the rotation of the cylinder.

On the upper end of the cylinder C is a cog-gear *i*, with which engages worms *k k*, attached to twin shafts *ll* on opposite sides. The shafts *ll* are engaged at the opposite ends by a system of gears *mmmm*, by which equal motion is imparted to each. The shafts receive motion by any suitable means. The cylinder is rotated by this means.

In this invention a rudder is dispensed with entirely. The cylinder is simply turned to the right or left, thereby carrying the propeller to one side and at an angle to the right line of the ship. The reaction of the propeller on the water when standing at such an angle will throw the stern of the vessel around. Under ordinary circumstances but a slight turn of the cylinder is required, as the propeller is powerful in action and applies direct force to turn the vessel; but in cases of emergency—for instance, where there is danger of collision—the propeller can be carried around at a right angle, as shown by the dotted lines at the top in Fig. 3. The action is much more prompt and effective than in the use of a common rudder, as the whole power of the propeller is used to turn the ship, whereas in the use of a rudder the action depends on the forward motion of the vessel and the reaction of the water on the rudder set at an angle.

This invention is applicable to all kinds and sizes of vessels, and can be used on small boats operated by a propeller. The cylinder is essential to give proper bearing and support to the propeller, and also to inclose and carry the gearing and insulate it from the water.

Fig. 4 shows a modification embodying two propellers. Any desired number may be used.

If desired, friction wheels or rollers may be used under the cylinder to relieve friction.

Having described my invention, I do not claim a rudder provided with a propeller operated by separate gearing, but

What I claim as new, and desire to secure by Letters Patent, is—

In a propelling and steering apparatus for vessels, the combination, with the water-tight cylinder C, the propeller D, hung therein, and

gearing for giving motion to the propeller, of
the twin shafts *l l*, provided with worms *k k*,
which engage a cog-rim on the outer edge of
the cylinder in diametrically-opposite posi-
5 tions, and a system of gears *m m m m* engag-
ing together and giving equal motion to the
twin shafts, as shown and described, and for
the purpose specified.

In witness whereof I have hereunto signed
my name in the presence of two subscribing to
witnesses.

MELVIN O. PARKER.

Witnesses:

R. F. OSGOOD,
P. A. COSTICH.