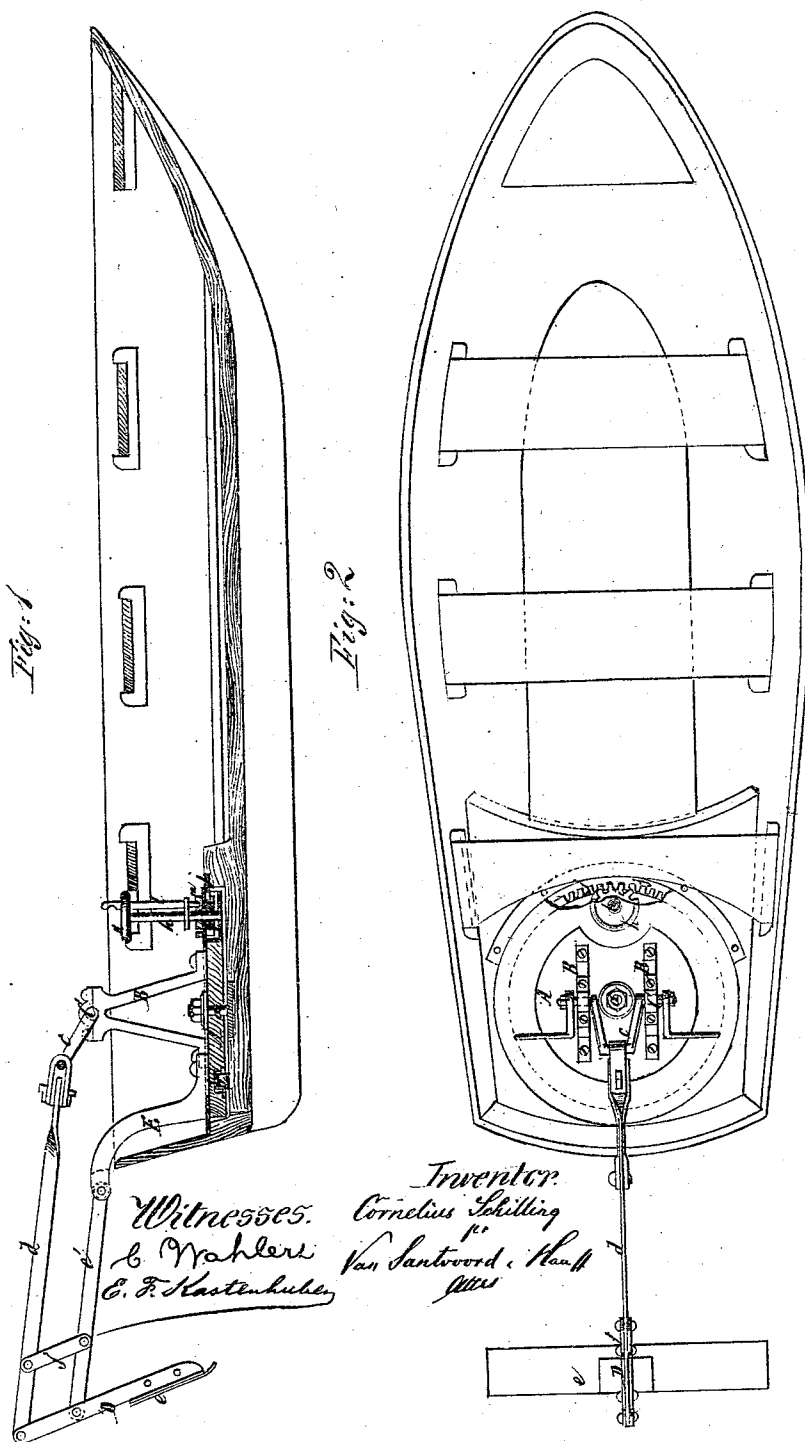


*C. Schilling,*  
*Crank Paddle.*

*No. 106,512.*

*Patented Aug. 10. 1870.*



*Witnesses.*  
*L. Wähler*  
*E. F. Kastenhuber*

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# United States Patent Office.

CORNELIUS SCHILLING, OF NEW YORK, N. Y.

Letters Patent No. 106,512, dated August 16, 1870.

## IMPROVEMENT IN PROPELLING APPARATUS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, CORNELIUS SCHILLING, of the city, county, and State of New York, have invented a new and improved Propeller; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a longitudinal vertical section of this invention.

Figure 2 is a plan or top view of the same.

Similar letters indicate corresponding parts.

This invention consists in the arrangement of a propeller-blade, which is attached to a lever suspended from two rods, which are connected by an intermediate link, and one of which is attached to a crank, while the other is pivoted to a standard or bracket, in such a manner that, by imparting to said crank a revolving motion, a compound oscillating motion is imparted to the propeller-blade, causing the same to dip down into the water, swing forward, rise out of the water, and swing backward, and by these means a vessel can be propelled with ease and facility.

The propelling mechanism is mounted on a platform, to which a revolving motion can be imparted by a pinion mounted on an upright shaft, and gearing in a stationary segmental rack, in such a manner that, by turning the upright shaft, the direction in which the propelling mechanism acts can be changed at pleasure, and the vessel can be steered with ease and facility. A sliding key and perforated disk serve to stop the platform in the desired position.

In the drawing—

The letter A designates a circular platform, which is fitted into a cavity at or near the stern of a vessel, and which is retained in position by a center pin, *a*, so that it can be freely revolved in either direction.

Suitable friction-rollers, *b*, inserted in the under surface of the platform, facilitate the revolving motion of the same.

From this platform rise two standards, B, which form the bearings for the crank-shaft C, and from the crank *c* extends a rod, *d*, to the outer end of which is pivoted the lever D, carrying the propeller-blade *e*.

From the platform A also extends a bracket, E, from which extends a rod, *e'*, to the propeller-lever D, said rod being pivoted at one end to the bracket and at the opposite end to the lever, as shown in fig. 1.

The rods *d* and *e'* are connected by a link, *f*, which stands parallel to the lever D, and serves to sustain

the rods *d e'* in any position into which the same may be brought by the revolution of the crank *c*.

By imparting a revolving motion to the crank-shaft, the blade *e* assumes a compound oscillating motion, whereby the same is raised out of the water, carried forward, then depressed and carried back in the direction opposite to that in which the vessel is to be propelled. This action of the propeller-blade remains the same in whatever direction the crank-shaft is turned, with that exception, that in every case the vessel is propelled in a direction opposite to that in which the blade *e* is carried through the water, and this direction is reversed when the motion of the crank-shaft is reversed.

In the platform A is secured an upright shaft, *h*, on the lower end of which is mounted a pinion, *i*, which gears in a segmental rack, *j*, fastened in the circumference of the cavity of said platform, and to the upper end of the shaft *h* is secured a hand-wheel, *k*, as shown in fig. 1. By turning this hand-wheel the platform, together with the propelling mechanism, is rotated, and the direction in which the propeller acts can thus be changed at pleasure. The blade *e*, therefore, acts as propeller and also as the rudder.

Through the hand-wheel *k* extends a key, *l*, the lower end of which can be made to catch in one of the holes of a perforated disk, *m*, which is secured to or forms a portion of the platform A. By means of this key the platform can be locked in any desired position, but if it is desired to change the direction of the propeller, the key must be raised and the hand-wheel revolved in the requisite direction.

This propeller is intended particularly for canal-boats, but it can also be used with advantage for other vessels, and it can be driven by steam or any other suitable power.

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

1. The lever D, carrying the blade *e*, and secured to rods *d e'*, in combination with the link *f*, the crank *c*, and the platform A, substantially as shown and described.

2. The pinion *i* and rack *j*, in combination with the platform A, rods *d e'*, link *f*, and lever D, carrying the blade *e*, substantially as set forth.

This specification signed by me this 25th day of June, 1870.

Witnesses:

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W. HAUFF,

E. F. KASTENHUBER.