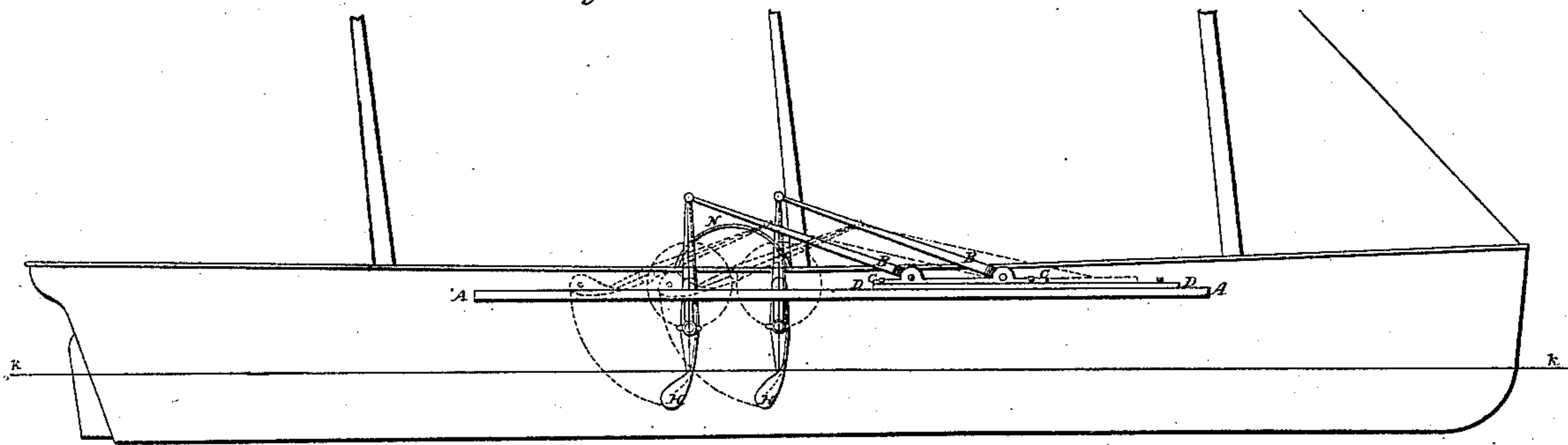


*M. Vergnes.*  
*Crank Paddle.*

*Nº 57,798.*

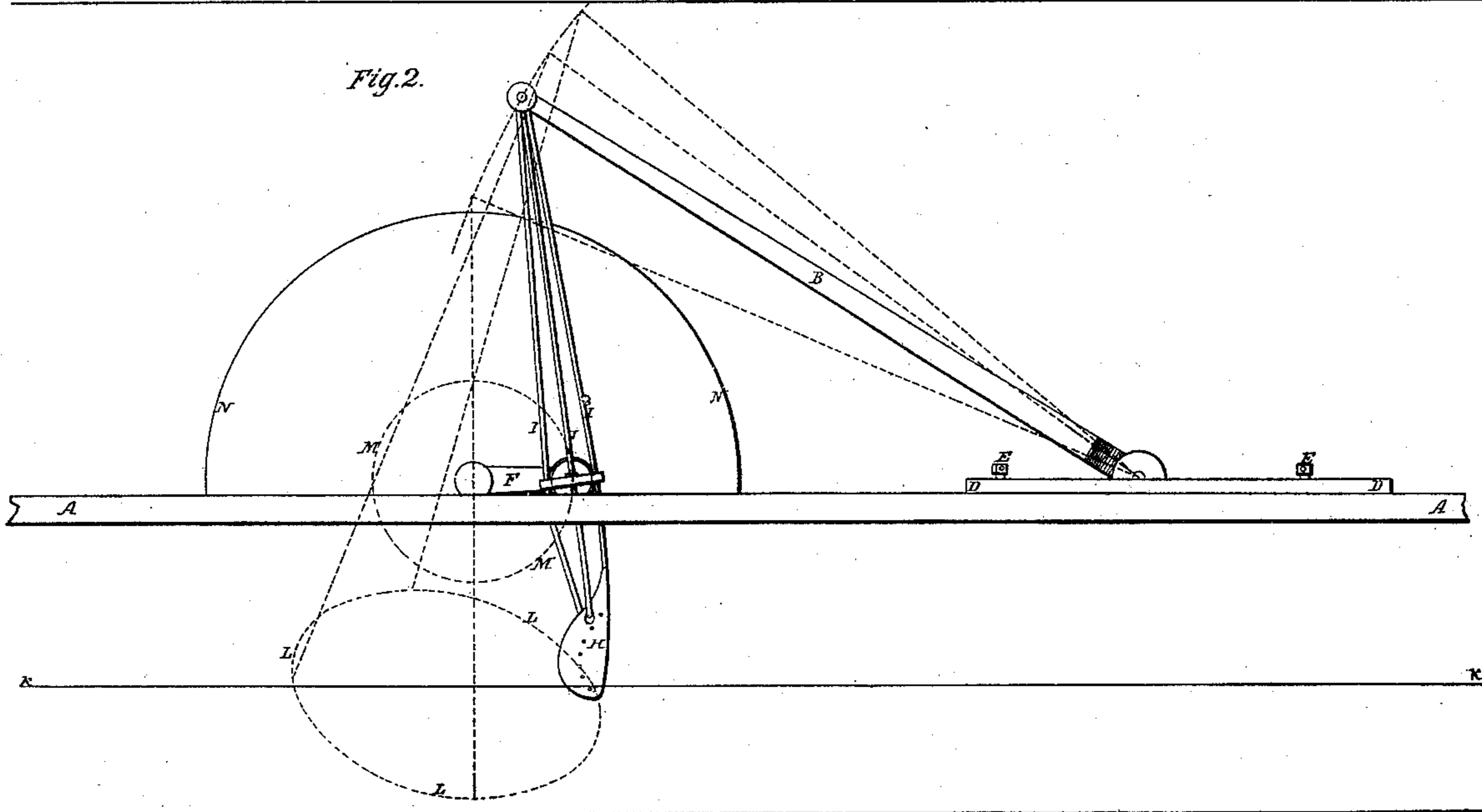
*Patented Sept. 4, 1860.*

*Fig. 1.*

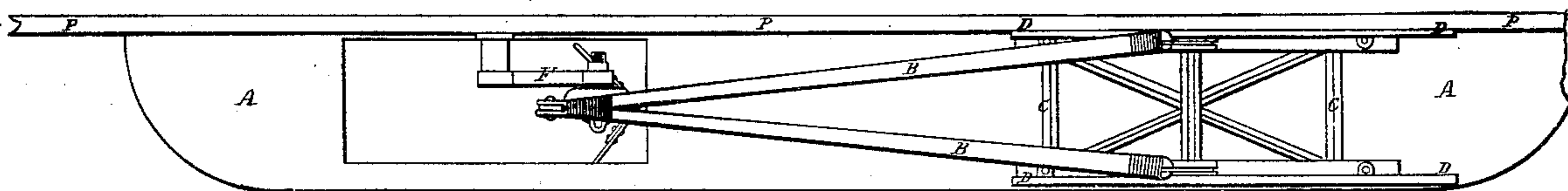


*Scale 0 6 12 18 24 30 36 42 48 ft.*

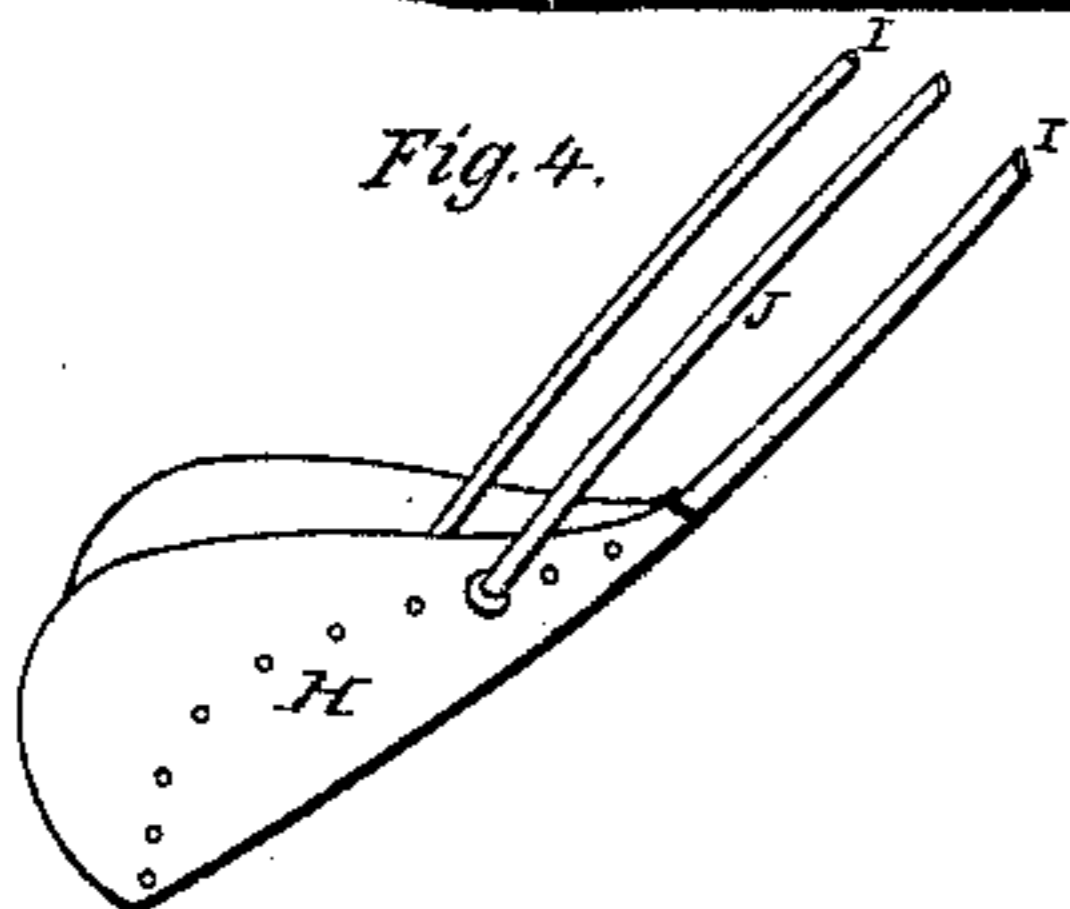
*Fig. 2.*



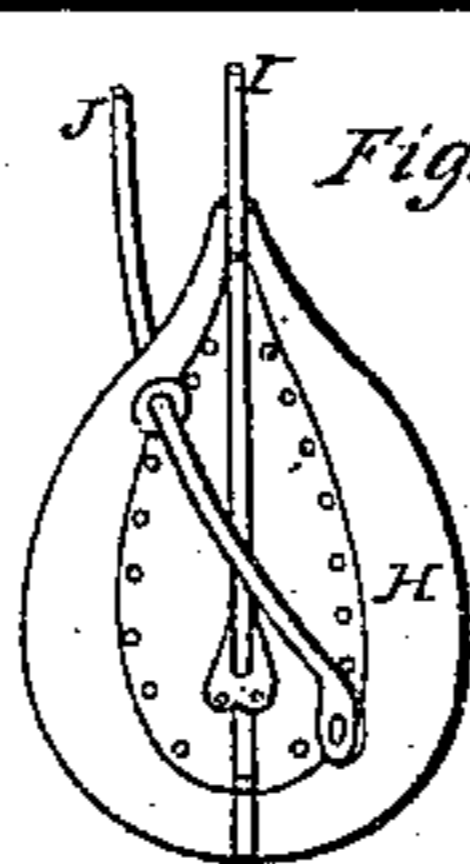
*Fig. 3.*



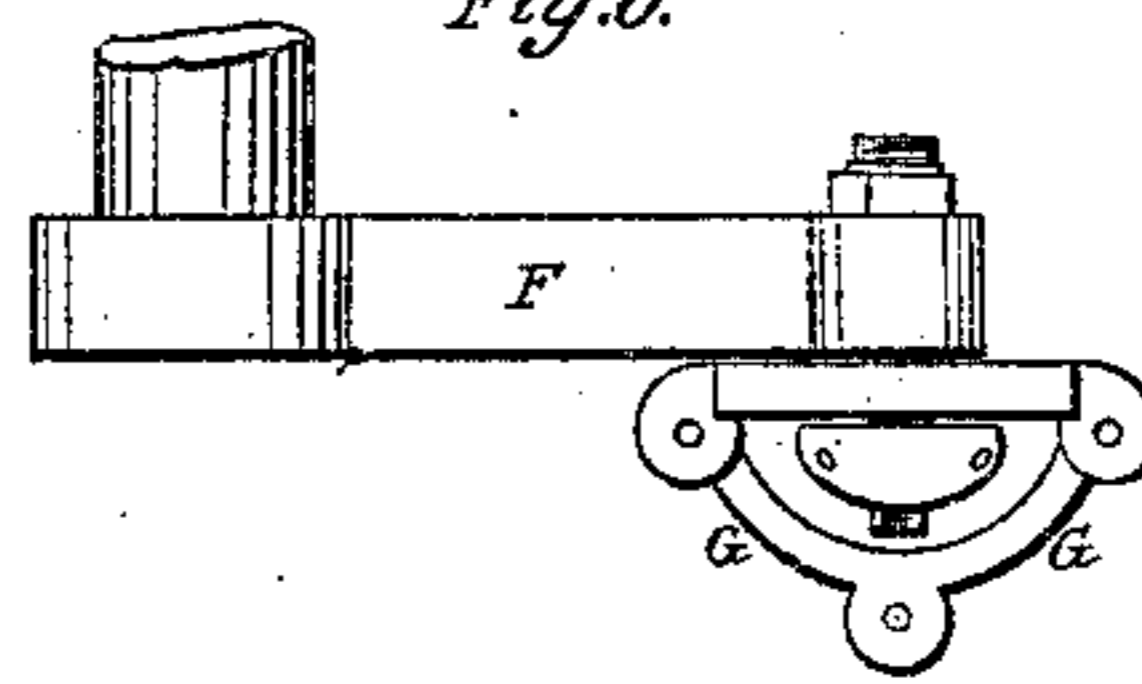
*Fig. 4.*



*Fig. 5.*



*Fig. 6.*



*Witnesses:*  
*Owen G. Warren*  
*M. Webster*

*Inventor:*  
*M. Vergnes*

# UNITED STATES PATENT OFFICE.

MAURICE VERGNES, OF NEW YORK, N. Y.

## PROPELLING APPARATUS FOR BOATS.

Specification forming part of Letters Patent No. 57,798, dated September 4, 1866; antedated August 3, 1866.

*To all whom it may concern:*

Be it known that I, MAURICE VERGNES, of the city, county, and State of New York, have invented a new and useful arrangement of mechanical devices, constituting a propelling apparatus; and I hereby declare that the following is a full and exact description thereof.

To enable others to make and use my invention, I proceed to describe its construction and operation, reference being had to the sheet of drawings hereunto annexed, and making part of this specification.

Figure 1, side elevation of the hull of a steamer having this style of paddles; Fig. 2, enlarged diagram, representing the paddle in the water; Fig. 3, plan of the guard of the boat, with the crank, &c.; Fig. 4, side of the paddle; Fig. 5, face of the paddle; Fig. 6, the crank, &c.

The same letters refer to the same things in all the designs.

A is the guard of the steamer; B, the guide-arm; C, the carriage; D, the inclosing-rails of the carriage; E, screw-bolts to fix the carriage; F, the crank; G, block-piece, through the holes of which are the rods that constitute the oar or arm and support the bucket or paddle; H, the paddle; I, the two inner rods; J, the outer or bracing rod; K, the water-line; L, the ellipse formed by the motion of the paddle; M, the circle formed by the crank; N, the balance-wheel; O, position of the paddle when thrown out of the water; P, hull of the vessel.

The nature of this invention consists in arranging mechanical devices for a propeller so that a paddle is thrown into the water in a generally vertical direction, and so as to effect the stroke during about one-third the revolution of the crank, taking out the paddle without lifting the water. Thus about two-thirds of the motion of the crank can accumulate power upon the balance-wheel for the next stroke.

In order to accomplish this purpose I use a large and heavy balance-wheel, whose inertia will prevent the too rapid motion of the engine when, by the subsidence of a wave, a wheel would race, and whose momentum will hold the power gathered during the time when the paddle is not immersed.

This mode of applying the paddle to the water renders available an engine of much smaller power than with other modes, and in its construction it is economical.

The oar I and J, on the lower end of which is the paddle, is made of three rods of iron, so as to present a small surface to the impact of the wave. The rods pass through the block-piece G. It is attached to the crank at its middle portion—that is, between the top of the oar and the end of the paddle—but may be varied in its position, as may be desirable.

At the top the oar is connected by a pivot to the guide-arms. At the lower end of the oar is the paddle, whose shape is peculiar. It is made of boiler-plate, and is partially folded, to avoid breaking the water. The guide-arms B, which steady this at the top, are secured by pivot at the foot upon the carriage C, which slides between the rails D back and forth, and is secured in the desired position by the screw-bolts E.

When it is desired to take the paddles out of water in order to use sails, the carriage is drawn back far enough to set the paddle up in the guard, as shown by the occult lines O, Fig. 1. A large balance-wheel, N, will therefore very properly be a part of the engine to drive these paddles.

By this construction of a propeller I can use one or more paddles on each side of the boat by use of connecting-wheels; but one paddle may be large enough for the power of the engine.

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

1. The erection of the supporting-arms, movable at base and apex, spread at the base for solidity and strength, in combination with the oar-arms, to guide, steady, and support them, in the manner and for the purpose described.

2. Hinging the supporting-arms upon a carriage set on a rail, which can be moved to and fro to vary the dip of the oar in the water, and for the purpose of removing the oar from the water, in the manner described.

M. VERGNES.

Witnesses:

OWEN G. WARREN,  
W. R. WEBSTER.