

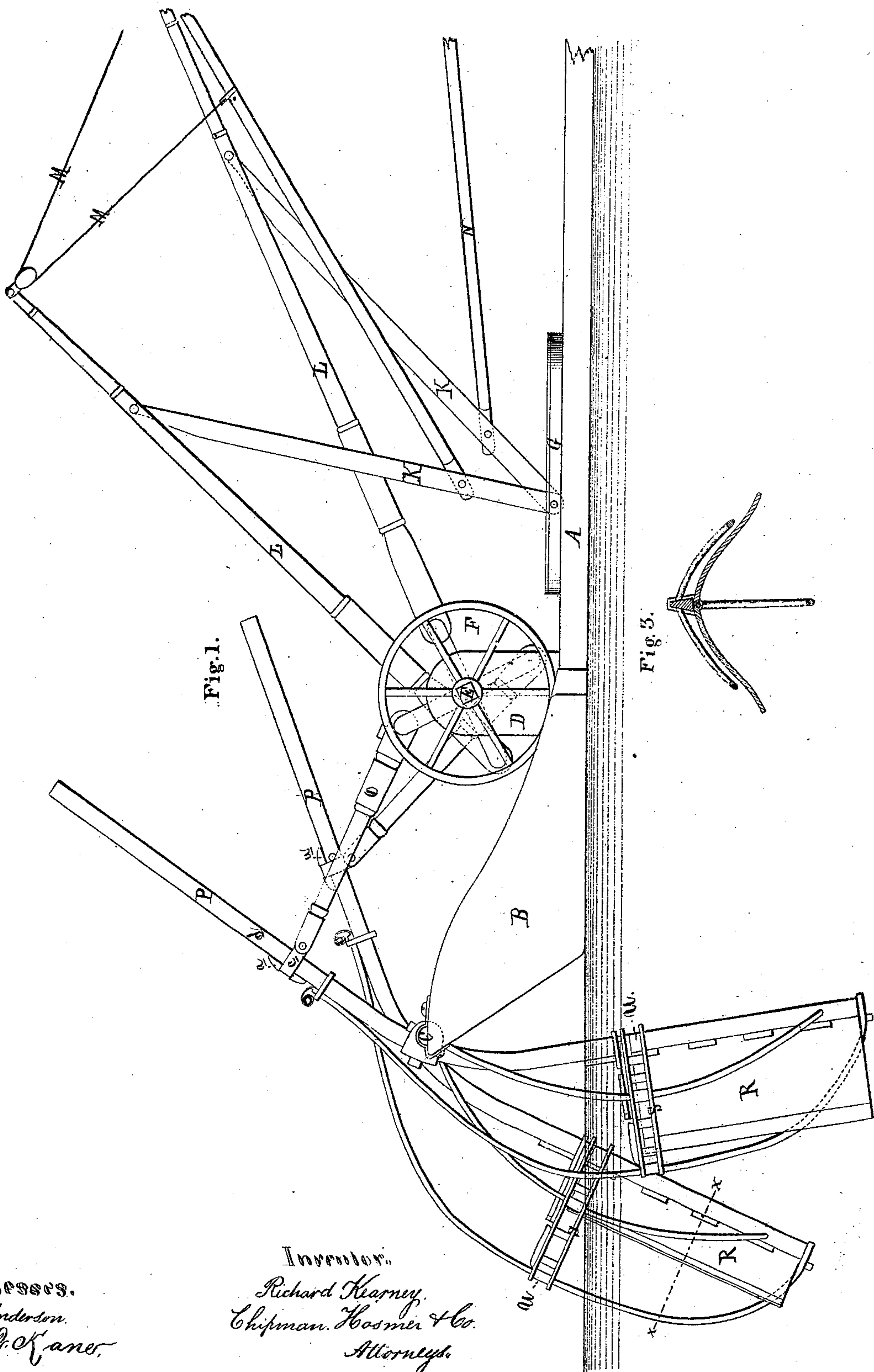
*R. Kearney,*

*2 Sheets, Sheet 1.*

*Vib Propeller.*

*No. 107,384.*

*Patented Sept. 13. 1870.*



*Witnesses.*  
*E. W. Anderson.*  
*L. B. Kane.*

*Inventor.*  
*Richard Kearney.*  
*Chipman Hosmer & Co.*  
*Attorneys.*

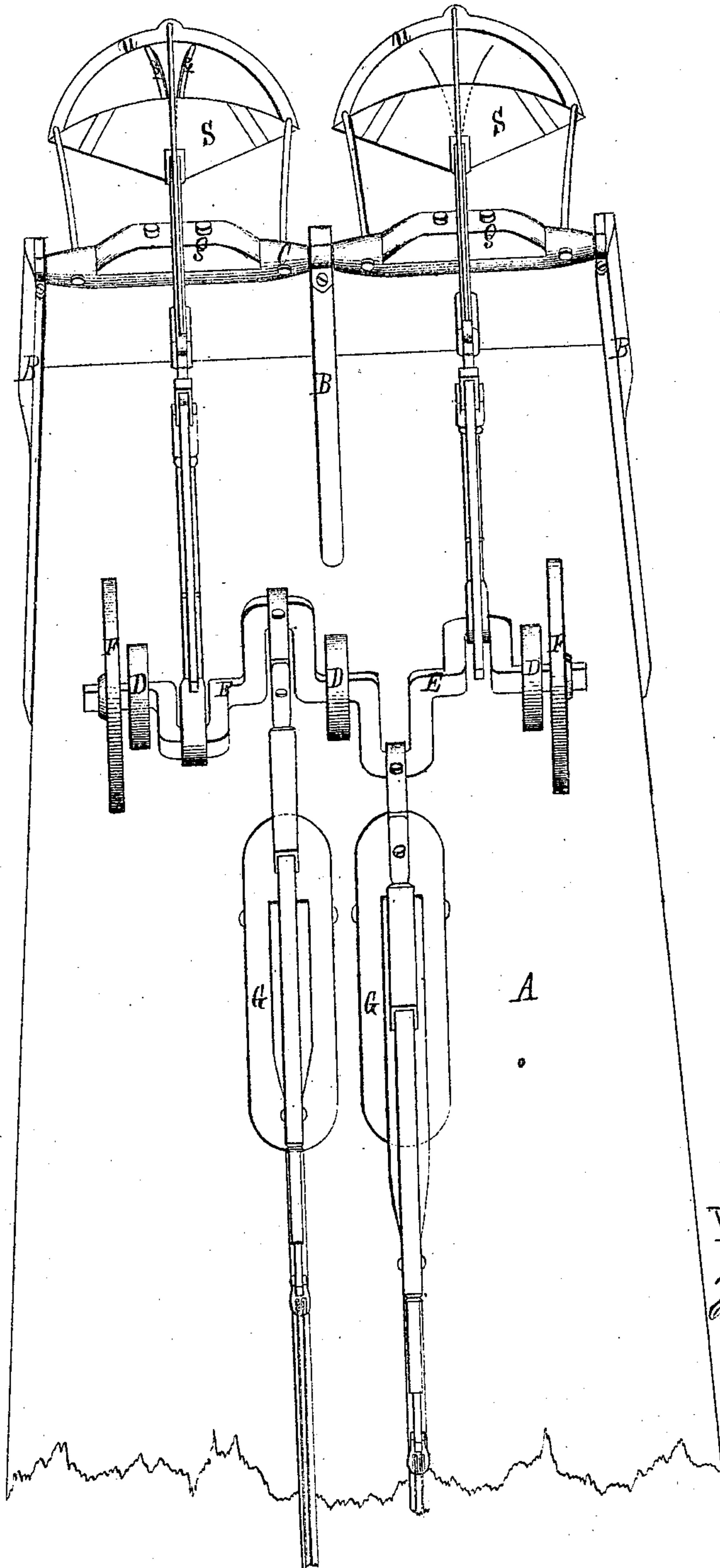
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Fig. 2.



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Inventor.  
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# United States Patent Office.

RICHARD KEARNEY, OF HAVRE DE GRACE, NEWFOUNDLAND.

Letters Patent No. 107,384, dated September 13, 1870.

## IMPROVED 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, RICHARD KEARNEY, of Havre de Grace, in the Province of Newfoundland, have invented a new and valuable Improvement in Means for Propelling Vessels; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a side elevation of my apparatus;

Figure 2 is a plan view; and

Figure 3 is a detail showing the shape of the leaves of the paddles.

My invention relates to means for propelling vessels; and

It consists in improvements whereby a novel and useful combination of devices are arranged and adapted for moving vessels through water by hand or other suitable power.

A of the drawing represents the deck of a vessel upon which my devices are arranged, the portion broken off being the bow thereof.

At the extreme rear end or stern of the deck, I attach raised brackets, B B B, the object being to form rests, supports, and journal-boxes for the shaft C.

The shaft C rests upon the brackets above mentioned, and works in journal-boxes or bearings formed therein, respectively.

At a distance of about ten feet, more or less, forward from the stern of the vessel, I affix to the deck three standards, D D D, which are designed to form supports and bearings for the crank-shaft E.

The crank-shaft E is arranged to rotate in suitable bearings in the standards D, and has attached to it the fly-wheels F F, as shown on fig. 1 of the drawing.

At a distance of about six feet, more or less, in front of the standards D, I attach to the deck the stationary plates G G, which serve as means in which the levers K K may be pivoted, as hereinafter mentioned.

The levers K K are pivoted, respectively, at their bases, in the plates G G, as shown, while their upper ends are, respectively, pivoted to the levers L L, in the manner shown on fig. 2.

In one or both of the levers K, and connected, by the rope M, to a pulley at the top of a lever, L, I pivot and arrange another or supplementary lever, N, adapted for hand use. My method of arranging this supplementary lever is shown on fig. 2.

The levers L are, respectively, attached to the cranks of the crank-shaft, and pivoted with levers K, as the drawing represents.

O O represent pitmen, attached at their front ends,

respectively, to cranks of the shaft E, while their rear ends are hinged or pivoted to the bent levers P.

The levers P are, respectively, attached to the shaft C, and made adjustable therein, up or down, by means of the removable plates Q, affixed to said shaft by set-screws.

My method of attaching the pitmen O to the levers P is as follows:

I hinge the pitman to a staple or clasp, c, that is passed around the lever, and I also arrange a wedge or slide, d, upon the lever inside the clasp, as shown on fig. 2. I further pass small pins, d, through the lever, to serve as stops for the movements of said clasp up and down upon said lever, all of which devices are represented on fig. 2 of the drawing.

R R of the drawing represent my webs or paddles, which are, respectively, attached to the bent levers P, in the manner shown, and as hereinafter described.

Each of said paddles consists of two quadrangular plates, hinged horizontally to the outer edge of lever P, and arranged to fold together when said lever is moved forward in the water, and to open like a fan when the same is moved rearward. The resistance of the water in each case serves as the means of opening and closing.

At the upper end of said paddles, respectively, is a plate or bucket, S, which serves as means for retaining the water upon the paddle, and preventing its flow over the top thereof.

The webs or paddles R, when folded, are not allowed to touch each other. To prevent such touching, and hold them in a position to receive water for forcing them apart, I attach a bent rod, T, to the lever P, in the manner shown, and extend it down to the lower end of said lever, so arranging the same that it shall pass between the lower ends of said paddles when folded, and hold them asunder.

At the top of said paddles, I arrange a circular guard, U, with an arm extending to the lever P; and on each side of said arm I affix a spring, s. When the paddles are closing, the upper ends thereof rest against the springs s, and are thereby prevented from touching each other, the springs, at the same time, serving as a yielding bed or cushion between the paddles, and as aids in opening the same.

My device is usually operated by moving the lever N by hand, but it may also be used by horse-power, wind-power, or steam properly applied to the levers, and such power may be applied at the side of the vessel, as well as on deck.

A pivoted lever in the form of a walking-beam may also be arranged in front of the levers upon the deck, with a ratchet-bar placed horizontally on said deck, adapted to work with pinions and cogged gear connected with such lever. In fact, the methods of oper-



ating my invention are too numerous for detail in this description; but, above all others, so far as I have tested them, I prefer the use of the lever N, as above stated.

I have stated in a previous paragraph that the leaves of my paddles are flat. This statement is comparatively correct, but they are slightly curved. The leaves of these paddles each show, in horizontal section, (as appears in fig. 3,) a curve of double curvature; and they are so arranged and hinged together that, when open, a kind of scoop is formed, which tends to gather the water, and increase the resistance thereof, while, when closed, the free edges cannot come together, but curve outward from each other, in such manner that the slightest backward motion of the paddle-frame throws them open.

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

1. The guard U, springs s, and rod T, in combination with the lever P and paddles R, when constructed and arranged to operate as and for the purposes specified.

2. The clasp c, slide a, and pins d, in combination with the lever P and pitmen O, when constructed and arranged to operate as and for the purposes described.

3. The combination and arrangement of the levers K, L, N, and P and pitman O, shafts C and E, and the paddles, as described, substantially as and for the purposes set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

RICHARD KEARNEY.

Witnesses:

E. W. ANDERSON,  
D. D. KANE.