

(No Model.)

P. J. MUNSON & G. H. STRAND.

WINDMILL FOR BOATS.

No. 279,973.

Patented June 26, 1883.

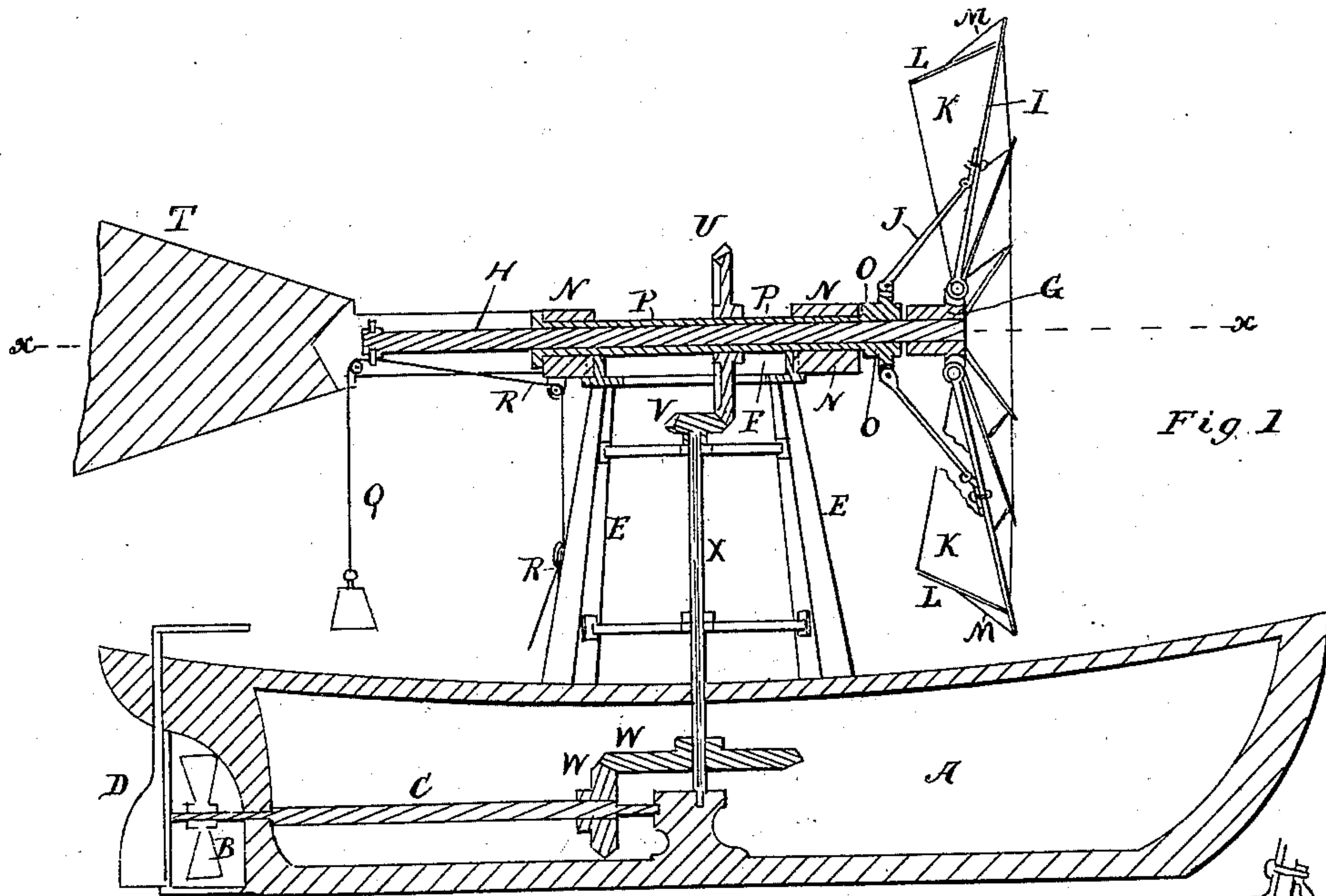


Fig. 1

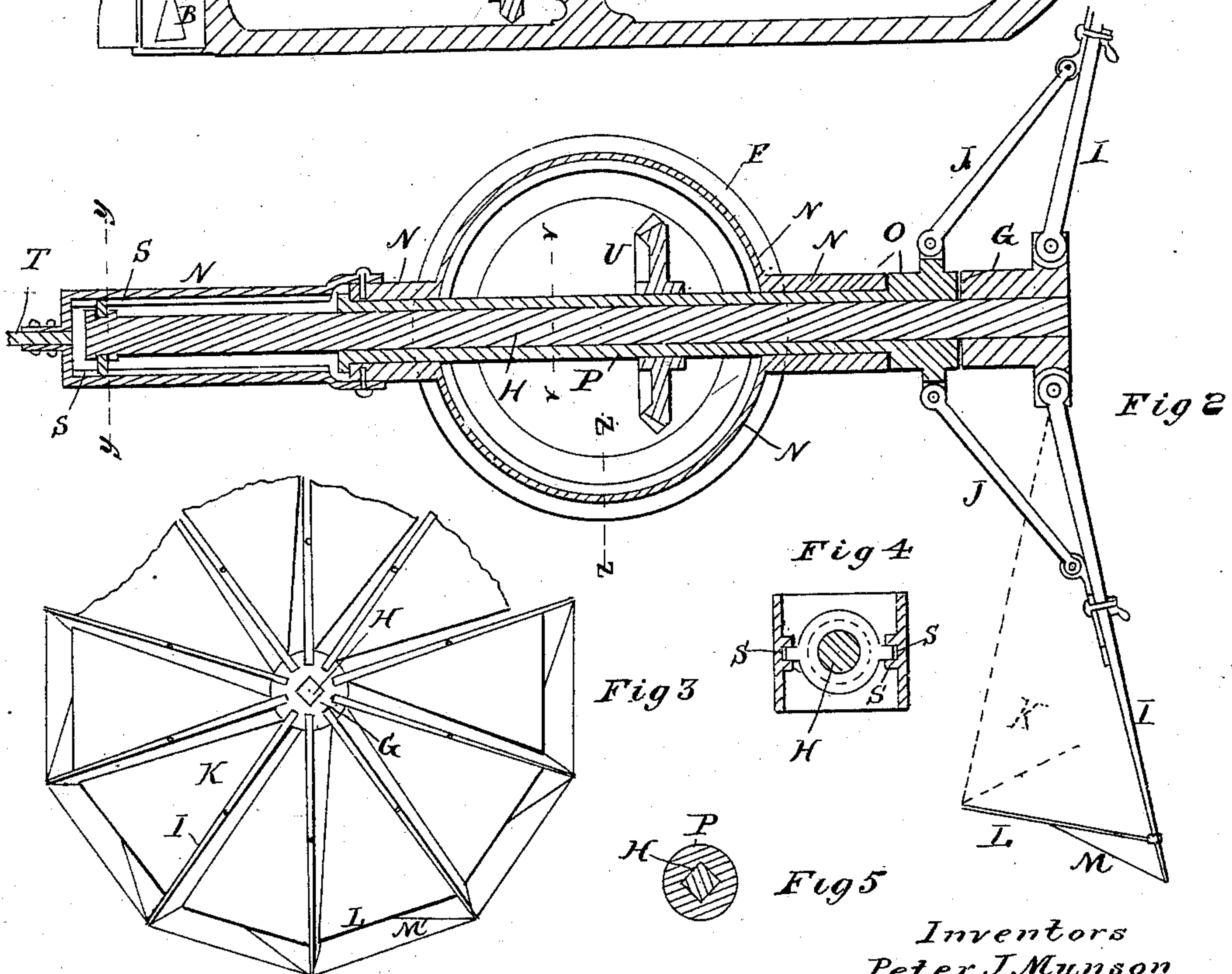


Fig. 2

Fig. 3

Fig. 4

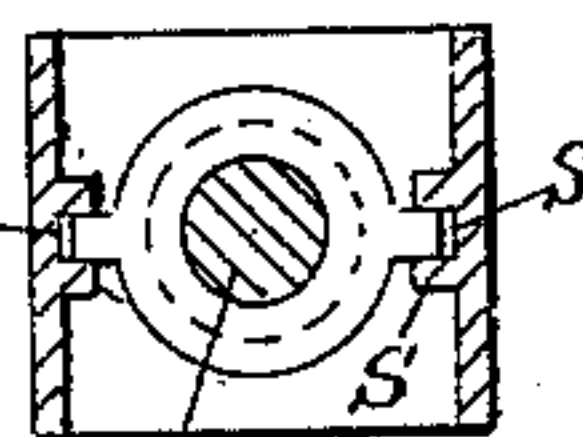
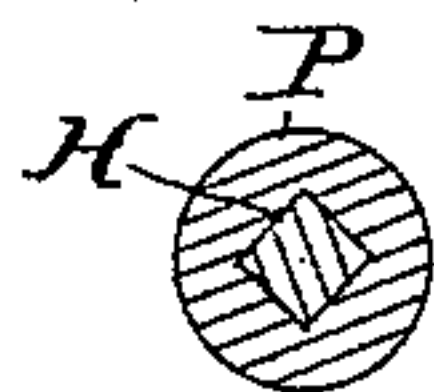


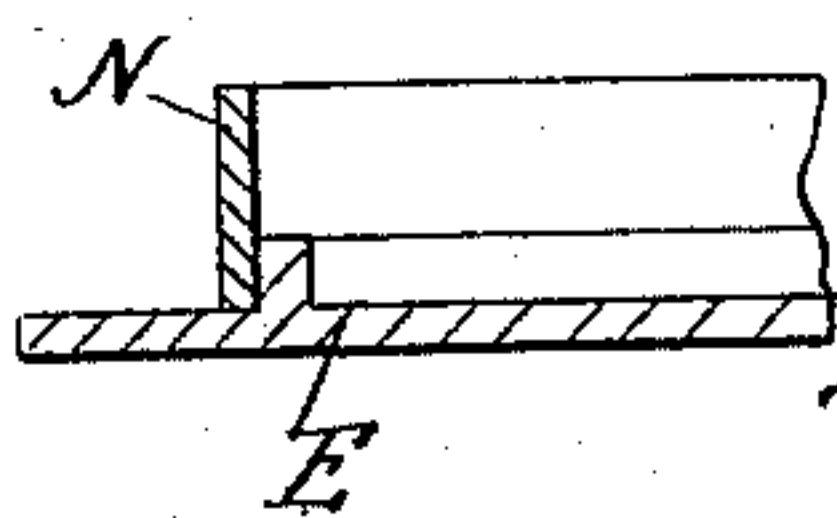
Fig. 5



Witnesses

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Fig. 6



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UNITED STATES PATENT OFFICE.

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WINDMILL FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 279,973, dated June 26, 1883.

Application filed August 12, 1882. (No model.)

To all whom it may concern:

Be it known that we, PETER J. MUNSON and GEORGE H. STRAND, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Windmill for Boats, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a vertical central section of the windmill applied to a boat; Fig. 2, a transverse section taken at the line *xx*, Fig. 1. Fig. 3 is a front view of the windmill-head. Fig. 4 is a transverse section taken at the line *yy*, Fig. 2; Fig. 5, a transverse section taken at the line *vv*, Fig. 2; and Fig. 6 is a detached sectional view taken at the line *zz*, Fig. 2.

The object of our invention is to provide a windmill which shall be conveniently applicable to the propulsion of a boat and to other uses in which economy of space is desirable. To this end we have shown a windmill of peculiar construction which has novel features invented by us, by which we are enabled to fold the windmill-head or shut it up like an umbrella. We also have attached to the said folding windmill-head a weight to hold it in the wind. We have also special construction for operating and controlling the windmill, all of which will be hereinafter fully described.

In the drawings, A represents any ordinary boat.

B represents a screw-propeller wheel, secured to the shaft C.

D is the rudder.

E is the windmill-tower, firmly secured to the boat in such manner as to carry the windmill.

F is a turn-table secured to the top of the tower E.

G is a sliding head, attached to the spindle or arbor H.

I are jointed arms, hinged to the head G; and J are jointed braces, by which the arms I are operated.

The shaft or arbor H is so held in its bearings as to slide forward, carrying with it the head G, and the braces J, not being carried forward, fold the arms I down upon the arbor or shaft H.

K are vanes or sails attached to the arms I.

We preferably make these vanes or sails of canvas, and attach them at one edge to the arms I, leaving the other edge to swing out at an angle, as shown in Figs. 1 and 2. The top edge of the canvas is secured to a rod or stick, L, and its outer corner is connected with the arm I by means of a cord, M, that can be shortened and lengthened to give the canvas greater or less angle, so as to make the windmill-head more or less open, as desired.

N is a turn-table that rests upon the stationary table F and turns thereon.

O is a hub, to which the braces J are jointed. This hub has a sleeve, P, that extends through the turn-table N. The shaft or arbor passes through this sleeve P in such a manner as to slide back and forth through it; but they revolve together, having their boxes or bearings in the turn-table N.

Q is a weight attached to the rear end of the arbor or shaft H to hold it drawn back in the position shown in Fig. 1.

The braces J are attached to the arms I at such a point that the windmill-head presents more than half its wind-surface between the point of attachment and the outer rim of the head, so that when the wind blows against the windmill-head it has a tendency to throw the sliding head G forward and fold up the head; but the weight Q overcomes this tendency until the force of the wind is sufficient to raise the weight.

R is a lever and rope, also attached to the rear end of the shaft or arbor H, for the purpose of throwing the arbor forward and folding the windmill-head whenever desired. A person standing upon the deck of the boat can, by means of the lever and rope R, throw the arbor H and head G forward and fold up the head of the windmill. By locking the lever R in suitable position the windmill-head will be kept folded until the lever is released, when the weight Q immediately brings the head G and arbor H back to their working positions. (Shown in Figs. 1 and 2.) The rear end of the shaft or arbor H is secured in guides or ways S, as shown in Fig. 4, which guides or ways are securely fastened to the turn-table N.

T is the tail or vane of the windmill, which holds its head to the wind.

U is a bevel-wheel attached to the sleeve P,

and engages with the pinion V on the shaft X.
W W are beveled-gear wheels for transmitting power to the wheel of the boat.

We intend to use our windmill-power for
5 propelling light pleasure-boats, and while we
do not in some of our claims desire to be limited to the special construction of the windmill, we do claim the special construction in other claims.

10 It will also be readily understood that we may apply the power to any kind of wheels for propelling boats.

Having thus fully described our invention, what we claim as new, and desire to secure by
15 Letters Patent, is—

1. The combination, in a windmill, of the longitudinally-sliding arbor H and pivoted or jointed arms I, and braces J, pivoted to the arms I and a stationary hub, O, so as to fold
20 the windmill-head, substantially as described.

2. The combination of the sliding arbor or shaft H, the jointed arms I, and the weight Q, substantially as and for the purpose specified.

3. The combination of the sliding arbor H, pivoted arms I, the weight Q, and the lever and
25 rope R, or their equivalent, for operating and controlling the windmill-head, substantially as specified.

4. The table F, the turn-table N, the sleeve P, with hub O, and sliding shaft H, carrying
30 the windmill-head having jointed arms I, all substantially as specified and shown.

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Witnesses:

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