

(No Model.)

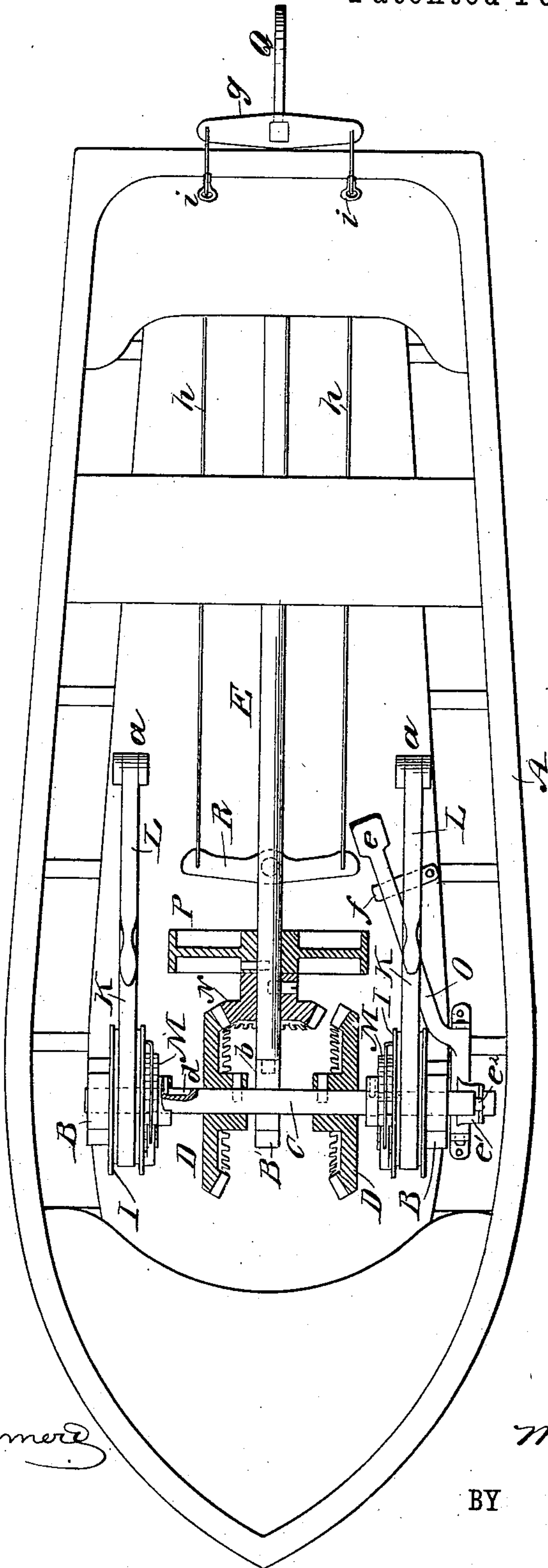
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M. BÄTZ.
HAND PROPELLER FOR BOATS.

No. 312,071.

Patented Feb. 10, 1885.

Fig. 1.



WITNESSES:

John R. Deemer
C. Sedgwick

INVENTOR:

M. Bätz

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Fig. 5. Fig. 4. Fig. 3.

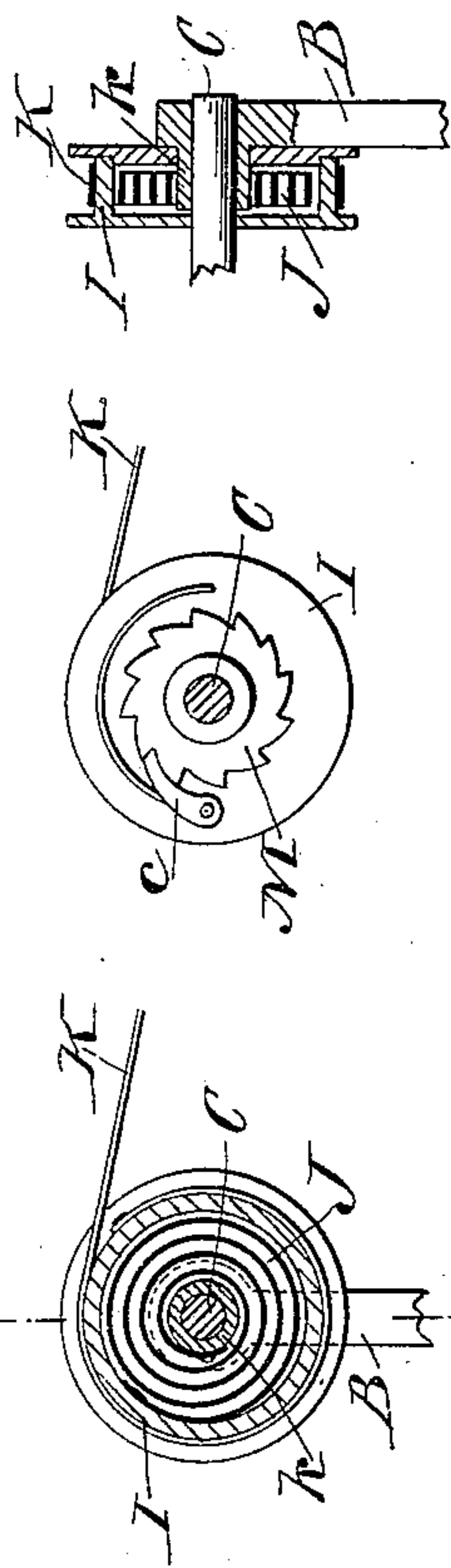
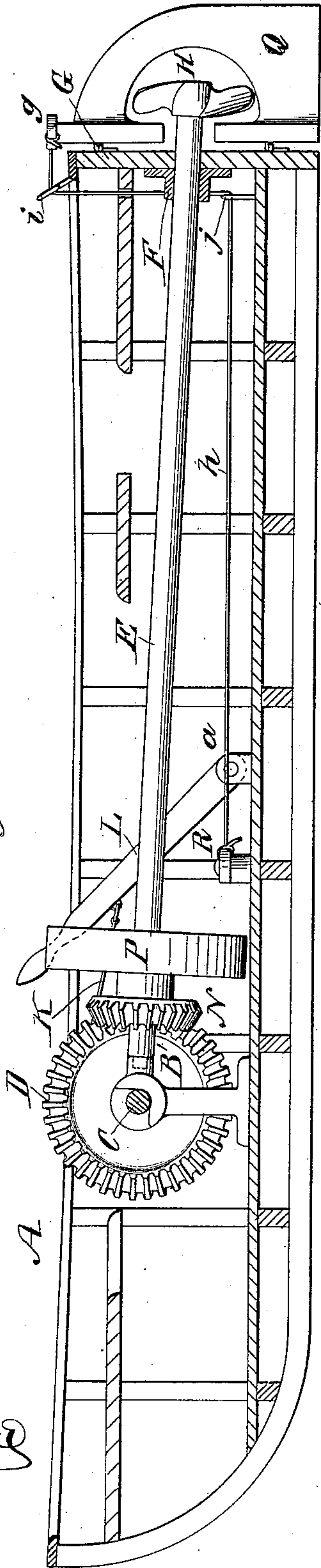


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

MICHAEL BÄTZ, OF BROOKLYN, NEW YORK.

HAND-PROPELLER FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 312,071, dated February 10, 1885.

Application filed July 31, 1884. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL BÄTZ, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Hand-Propeller for Boats, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional plan view of my invention secured in a small boat. Fig. 2 is a sectional elevation of the same. Fig. 3 is a sectional elevation showing the transverse shaft and one of the springs and rotary reciprocating barrels or casing applied thereto. Fig. 4 is an end view, showing one of the barrels and the ratchet mechanism applied thereto, and Fig. 5 is a sectional elevation taken on the line *xx*, Fig. 3.

The invention will first be described in connection with the drawings, and then pointed out in the claims.

The boat A may be the size of an ordinary row-boat or larger. In the three uprights B B' is journaled the transverse shaft C, on which are secured the two beveled gear-wheels D. In the box *b* of the central upright, B', is journaled the forward end of the shaft E, which passes back through the box F and stern board, G, and has the propeller H secured to its outer end. Upon the hollow gudgeons *k* of the uprights B, through which gudgeons the shaft C passes, are placed loosely the two circular shells or barrels I, which inclose coiled springs J, one end of which is secured to the gudgeons, the other to the shells or barrels. To the outer surfaces of the barrels I are secured the straps K, which are attached also to the hand-levers L, which are pivoted at *a* to the bottom of the boat A. Next to the barrels I are secured upon the shaft C the ratchet-wheels M M, with which the spring-pawls *c*, pivoted to the barrels I, engage, so that by drawing backward upon the levers L, the shaft C and cog-wheel D will be revolved, and this motion will, through the cog-wheel N, secured upon the shaft E, cause this shaft E and the propeller H to be revolved to the right or left, according to which of the cog-wheels D mesh with the cog-wheel N, and thus propel

the boat either forward or backward. The ratchet-wheels M are secured to the shaft C by pins entering slots *d*, and the shaft C is adapted to be shoved longitudinally in its bearings by the bent foot-lever O, so that to reverse the propeller for reversing the motion of the boat it is only necessary to press downward upon the foot-piece *e* of the foot-lever O, which will cause the upper end, *e'*, of the said lever to shove the shaft C so as to disengage one cog-wheel D from the cog-wheel N, and engage the other with it on the opposite side of the shaft E. The end *e'* of the lever O is forked and engages with the shaft C in the groove *e''*, and beneath the foot-lever O is placed the spring *f*, which causes the lever O to normally hold the shaft C moved to the left, so that by operating the levers L the boat at the outset will always be propelled forward. The fly-wheel P is placed upon the shaft E for causing the said shaft and the propeller H to have an even and regular motion. The rudder Q surrounds the propeller H and is provided with the cross-tiller *g*, to the ends of which are secured the small ropes *h h*, which pass thence through the eyes *i* and *j* and along the bottom of the boat to the centrally-pivoted foot-lever R, to the ends of which they are attached, so that by operating the foot-piece R with the feet the rudder may be operated for steering the boat. It will be understood that the backward movement of the levers L causes the shells I to turn against the tension of the spring J, so that when backward pressure upon the lever L ceases, the spring will react and automatically turn the shells I backward, bringing the levers L and pawls *c* into position for again applying power to the shaft C, so that by simply reciprocating the levers L together or alternately, the boat will be propelled rapidly forward or backward. The rudder Q being adapted to be operated by the feet renders the boat very convenient and easy to handle, and by simply pressing down upon or removing the foot from the lever O, the boat may be reversed without stopping or changing the motion of the levers L.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a hand-propeller for boats, the combination, with the propeller-shaft carrying a pinion or cog-wheel, of the sliding transverse

shaft carrying gear-wheels alternately moved into and out of gear with the propeller-shaft pinion, the spring-actuated pulleys or barrels, supported upon fixed gudgeons, and having
5 ratchet and pawl connections with said transverse shaft, and the hand-levers having strap connection with said pulleys or barrels, substantially as shown and described, and for the purpose set forth.

10 2. In a hand-propeller for boats, the combination, with the propeller-shaft carrying a pinion or cog-wheel, of the sliding transverse shaft carrying gear-wheels alternately moved into and out of engagement with the propeller-

shaft pinion, the spring-actuated pulleys or 15 barrels supported upon fixed gudgeons and having ratchet and pawl connection with said transverse shaft, the hand-levers having strap connection with said pulleys or barrels, and the foot-lever, with one end resting upon a 20 spring and with its other end connected to one end of said transverse shaft, substantially as and for the purpose set forth.

MICHAEL BÄTZ.

Witnesses:

H. R. FLETCHER,
JOHN H. GRIEB.