A. Bragg.
Chain Propeller.

No. 2,434. Patented Jan. 24, 1842.

Fig: 5.

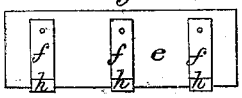
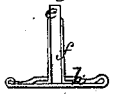


Fig: 6.



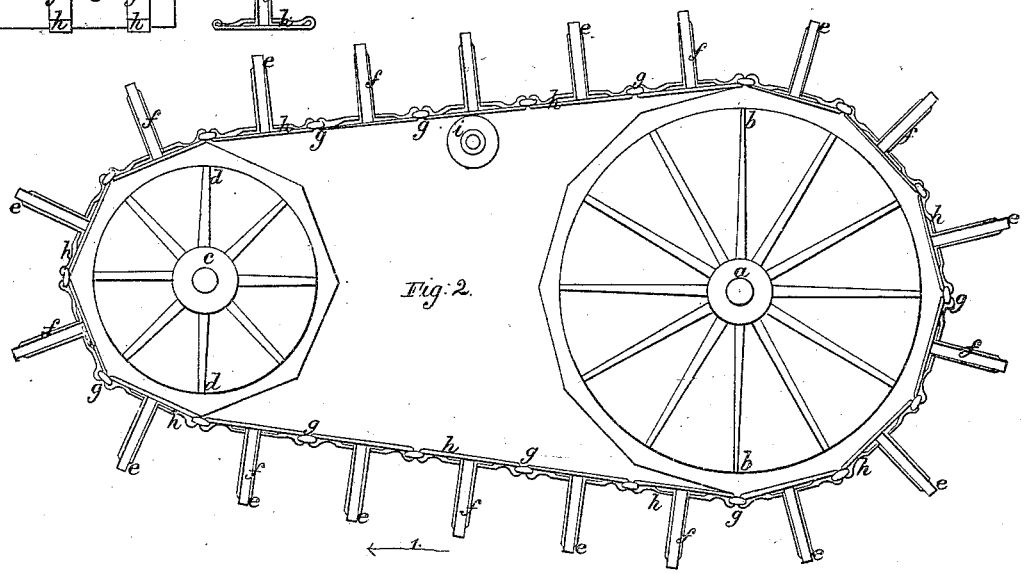


Fig: 2.

Fig: 1.

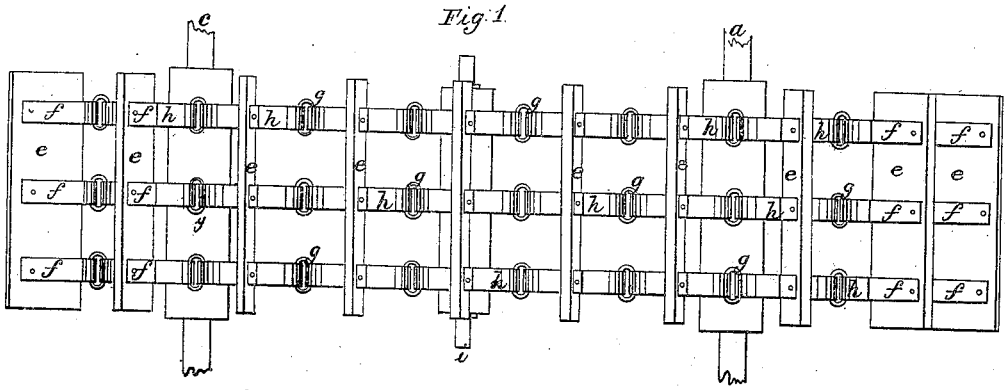


Fig: 3.

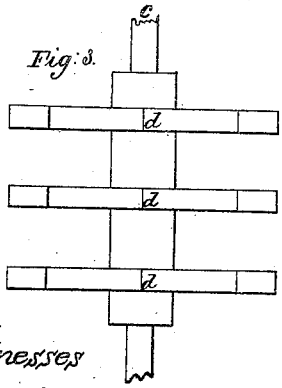
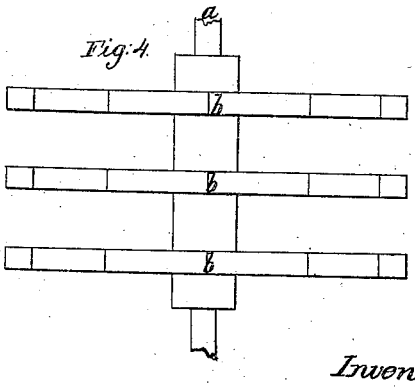


Fig: 4.



Witnesses
W Jerrell
L B Richardson

Inventor
Appleton Bragg

UNITED STATES PATENT OFFICE.

APPLETON BRAGG, OF NEW YORK, N. Y.

IMPROVEMENT IN THE MODE OF PROPELLING BOATS BY MEANS OF ENDLESS CHAINS OF PADDLES.

Specification forming part of Letters Patent No. 2,434, dated January 24, 1842.

To all whom it may concern:

Be it known that I, APPLETON BRAGG, merchant, of the city, county, and State of New York, have invented and made and applied to use certain new and useful Improvements in the Mechanical Arrangement and Construction of Paddle-Wheels for Steam-Vessels or other Vessels Moved by Mechanical Power, the said improvements being intended to effect the movements of the paddle or bucket boards without raising backwater by mounting the several boards on the bar-links of endless chains, which chains revolve over two wheels of proper construction, the after or hinder wheel being so much smaller than the forward wheel as to carry the successive boards nearly vertically out of the water before they reach the after wheel by the chain traveling with a small but sufficient inclination upward after quitting the periphery of the larger wheel, and for which improvements I seek Letters Patent of the United States; and I do hereby declare that the said improvements are fully and substantially set forth and shown in the following description and in the drawings annexed to and making a part of this specification, wherein—

Figure 1 is a general plan, and Fig. 2 a general elevation, representing the said improvements as they would appear when separate from the vessel to which they may be attached. Figs. 3 and 4 are separate plans of the wheels I propose to use. Fig. 5 is an elevation, and Fig. 6 a section, of the paddle-board or bucket-board, showing the mode of mounting used by me, and the letters used as marks of reference apply to the same parts in all the several figures.

a is the shaft carrying the large or forward wheel *b*, (shown in the drawings as a regular dodecagon or twelve-sided figure.)

c is the second wheel-shaft carrying the smaller or after wheel *d* (shown as a regular octagon) two-thirds the size of the larger wheel *b*.

e e are the paddle or bucket boards, each mounted between a pair of bars *f f*, which are to be connected in any proper mechanical manner to the bar-links *h h*, which are connected by the round links *g g*, the whole forming a set of endless chains, (shown as three in number in Fig. 1.)

Between the wheels and under the upper section of the chain a roller *i* may be placed to support the weight of that portion of the chain and paddles. When thus constructed and fitted to a vessel and any convenient power applied to turn the wheels in the direction of the arrows 1, the paddle-boards will enter and quit the water without lifting any, and the amount of propulsion will be as the collective area of the paddles immersed and the power applied to drive the wheels, and this power may be applied through the shaft *a* of the large wheel *b;* but it will be better to apply the power through the shaft *c* of the small wheel *d*, because the same amount of power so applied will be more effective and the direct pull will be on the immersed paddles instead of those out of the water, and instead of an open-frame wheel, as shown in the drawings, it may be desirable to form the larger wheel as a close drum, which in a narrow vessel employed on a river-way will operate much to prevent any heeling or rolling motion.

I do not intend to confine or limit the construction of such wheels to the proportions of size or number of straight parts on the periphery shown in the drawings; but to vary the same in any manner practice may show to be the best, but always preserving the straight parts on the periphery of each wheel or drum of the same length and preserving such a relative position of the two wheels as shall carry the paddle-boards *e e* out of the water nearly vertically before they turn upward on the smaller wheel.

I do not claim to have invented any one of the several parts described as employed in this mode of arrangement and construction, the whole of such separate parts having been heretofore employed for similar purposes; but

What I do claim as new and of my own invention is—

The combination of a large-sized wheel or drum having any number of straight sides on the periphery with a smaller wheel having, also any number of straight sides on the periphery of the same size as those on the larger wheel, the two wheels being placed in such a relative position that the paddle-boards traveling on an endless chain beneath the two wheels shall successively leave the water in a position nearly vertical by being raised out

before they are turned up by the rotation of the smaller wheel, the whole being constructed and operating for the intended purposes, substantially as hereinbefore described and set forth.

In witness whereof I have hereunto set my hand, in the city of New York, this 5th day of August, 1841, in the presence of the witnesses subscribing hereto.

APPLETON BRAGG. [L. S.]

Witnesses:
W. SERRELL,
S. B. RICHARDSON.