

T. W. Roys,  
Chain Propeller,

No. 35,475,

Patented June 3, 1862.

Fig. 1.

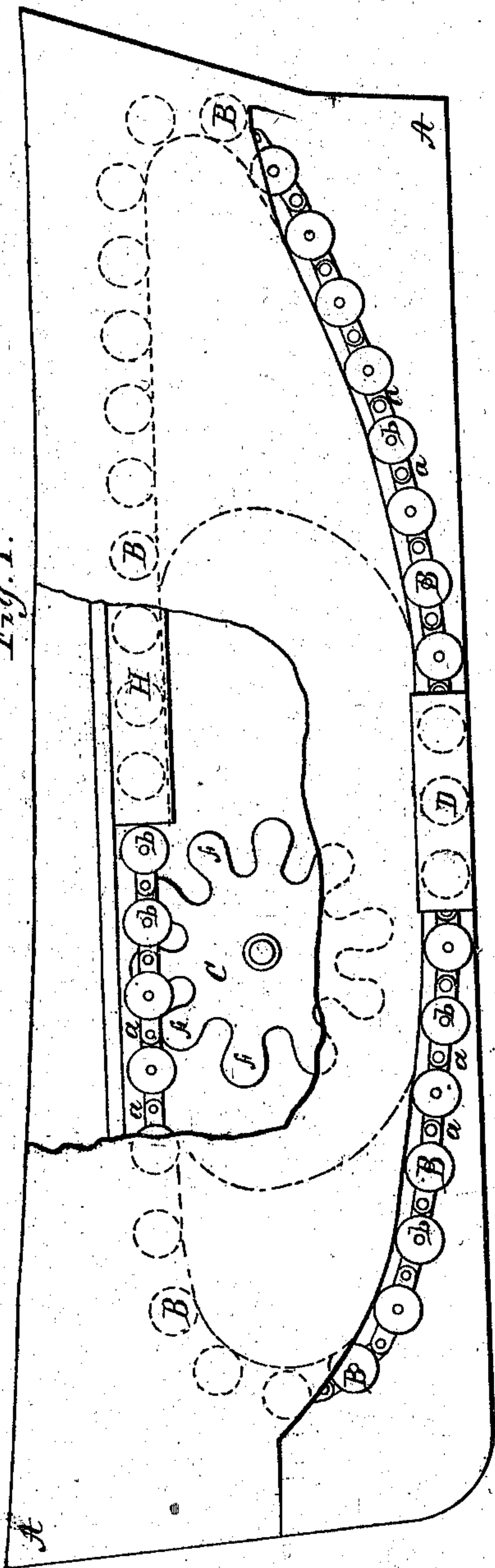


Fig. 3.

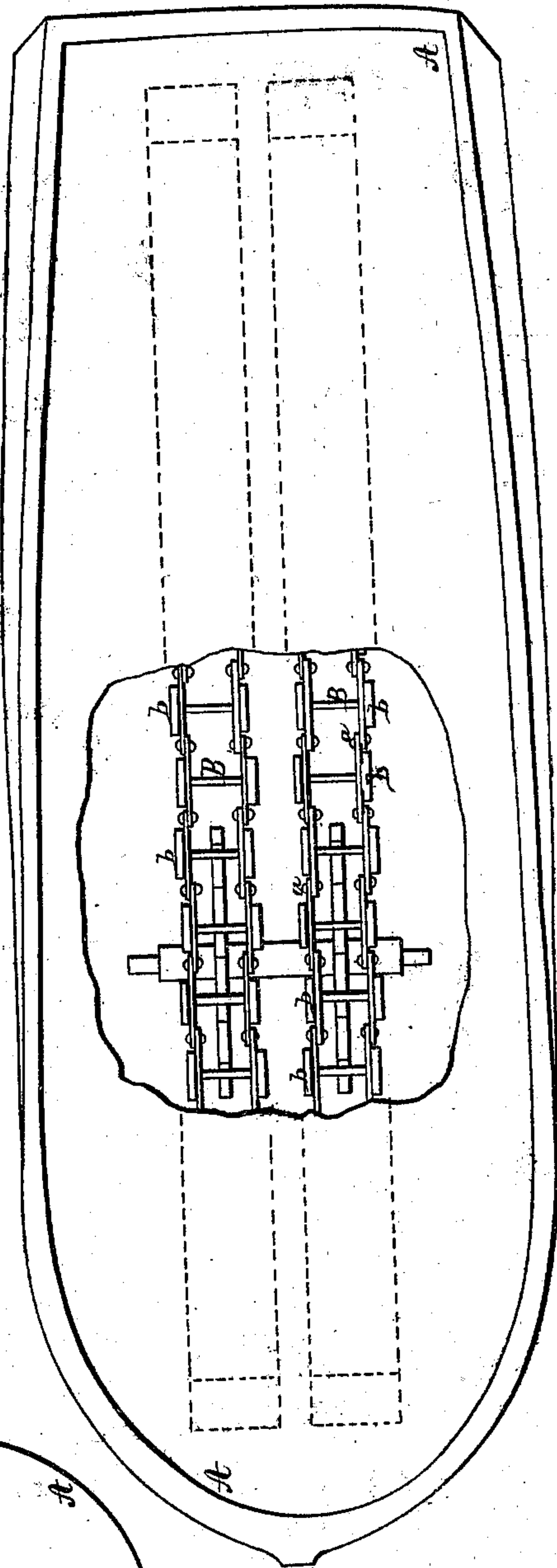
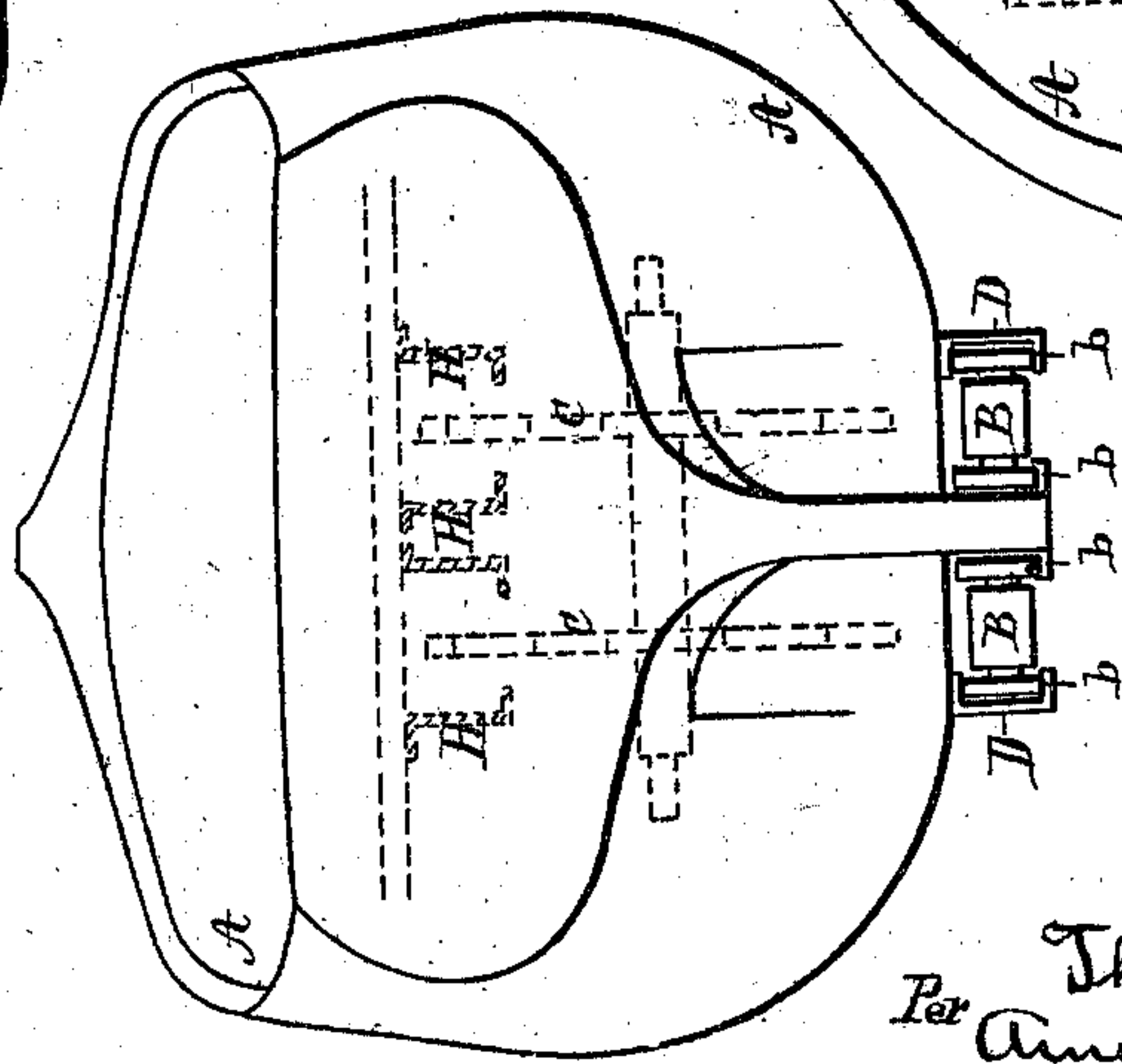


Fig. 2.



Witnesses.  
J. M. L. Hall  
William Jacobus.

Inventor.  
Thomas W. Roys  
Per Amos Mason, Atty.



# UNITED STATES PATENT OFFICE.

THOMAS W. ROYS, OF SOUTHAMPTON, NEW YORK.

## IMPROVEMENT IN PROPELLERS.

Specification forming part of Letters Patent No. 35,475, dated June 3, 1862.

*To all whom it may concern:*

Be it known that I, THOMAS W. ROYS, of Southampton, in the county of Suffolk and State of New York, have invented an Improved Propeller for Steam and other Boats; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making part of this specification, and which illustrate my invention.

My propeller consists of a series of buckets linked together so as to form an endless system of paddles, (somewhat in the nature of an endless chain,) applied longitudinally to the bottom of the vessel in a track or way made along the side of the keel, and leading up the bow and stern to about the water-line, where it passes into the hull of the vessel and over a driving-wheel, from whence it receives its motion.

Figure 1 on the drawings is a longitudinal section through a vessel, illustrating the propeller applied thereto under the bottom thereof from stem to stern. Fig. 2 is a stern elevation; Fig. 3, a plan or top view.

In the drawings, A represents the vessel; B, the propeller; C, the driving-wheel, and D the track in which the propeller is made to travel. The propeller may be made long or short and to pass through the hull at the stem and stern, or a little afore and aft the midships, as shown in dotted lines, or it may be made to pass through the stem and midships or the stern and midships, and the driving-wheel C may be located in any suitable position to give proper effect to the propeller in the different positions in which it may be applied. The bottom of the vessel must be shaped to receive this style of propeller—that is to say, the bottom must be made quite flat at the side of the keel and the track D made for the propeller to travel in, so as to keep it from surging. The track or way must also have a flange to lap over the propeller, as at *v*, to keep it from sagging or falling out of its place when the motion is reversed.

Over the holes made in the hull for the pro-

peller to pass through there should be pipes or tubes placed around the propeller in the inside of the vessel to keep the water out.

Over the track at the bow a shield may be made to keep the water from heaping up into the cavity made for the propeller to travel through, and thus cause a loss by reaction.

The propeller itself is composed of a series of flat links, *a a*, pinned together, as shown, and in the center of these links the paddles are placed with their propelling-surfaces at right angles with the line of motion, and they are held in that position by means of square gudgeons made on their ends, which gudgeons fit in correspondingly-shaped holes made in the links and long enough to reach through the said links and receive on the outside thereof friction-wheels *b*, which travel in the track and carry the propeller, the end of the gudgeons being made round, that the wheels may revolve freely about their own axis.

The driving-wheel C has arms *f* on its periphery, which work between the paddles, and thus give motion to the propeller.

The power may be applied directly to the wheel C, or it may be geared up in any known way.

In the inside of the vessel a track, H, is made to support the upper part of the propeller, so as to take the stress off of the bow and stern and cause the propeller to lie perfectly free, that it may move easily and with as little friction as possible.

Having thus described the construction and operation of my improved propeller, what I claim as my invention, and desire to secure by Letters Patent, is—

Making the tracks or ways on the bottom and in the inside of the vessel, as described, and arranging the propeller therein, and operating the same substantially in the manner set forth.

THOMAS W. ROYS.

Witnesses:

AMOS BROADNEX,  
WM. KEMBLE HALL.