

EDWARD WHITEHEAD.

Improvement in Propulsion of Vessels.

No. 121,738.

Patented Dec. 12, 1871.

Fig. 1

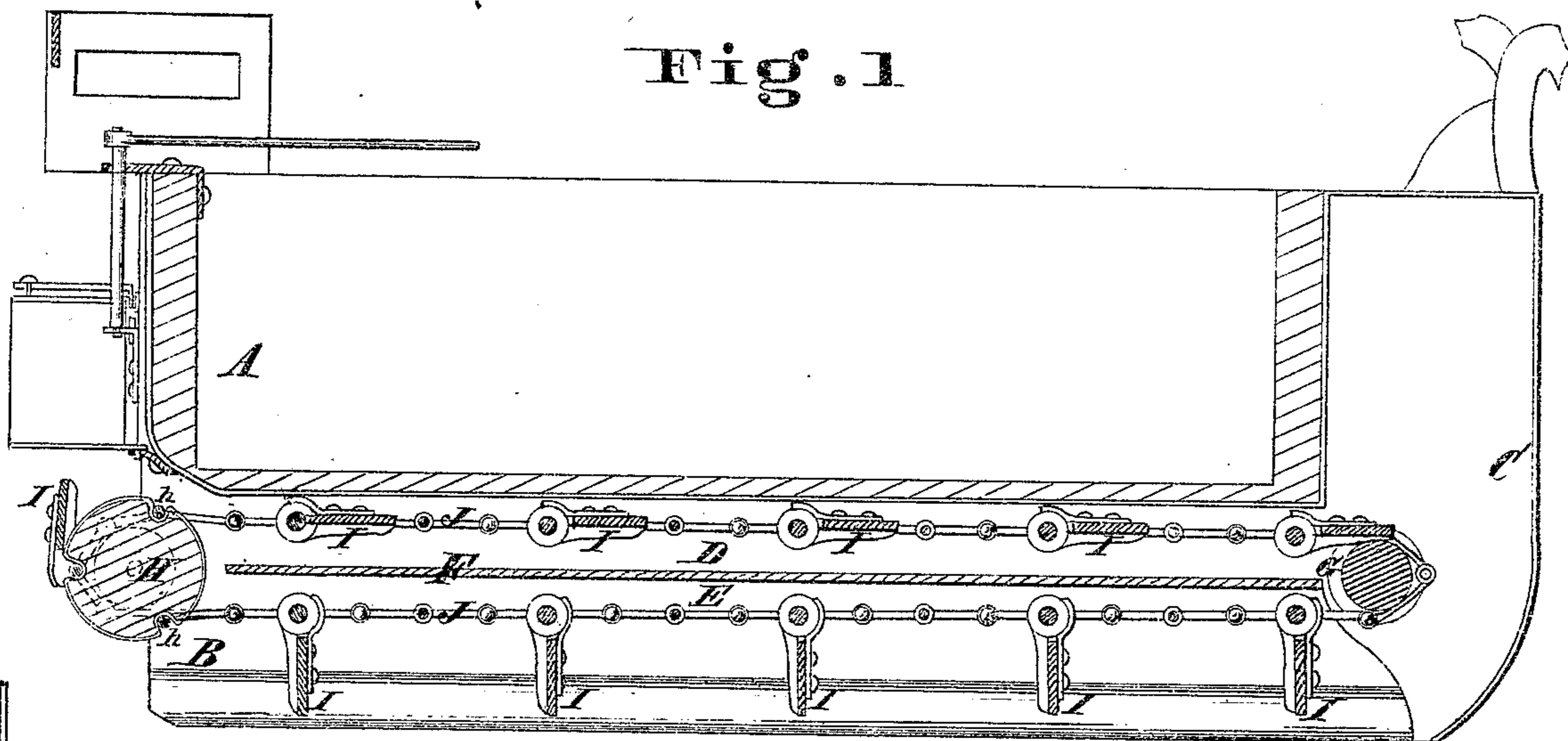


Fig. 2

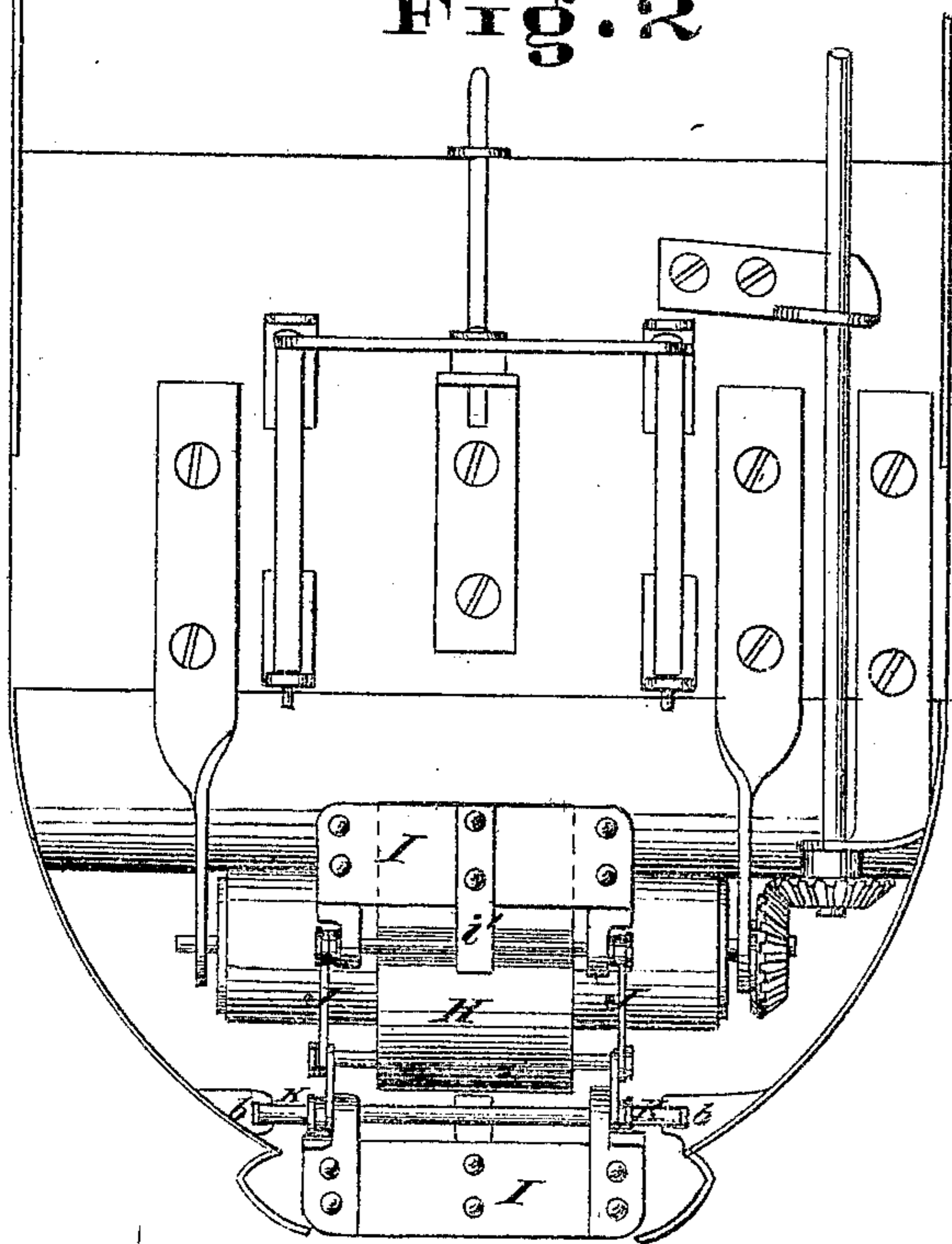
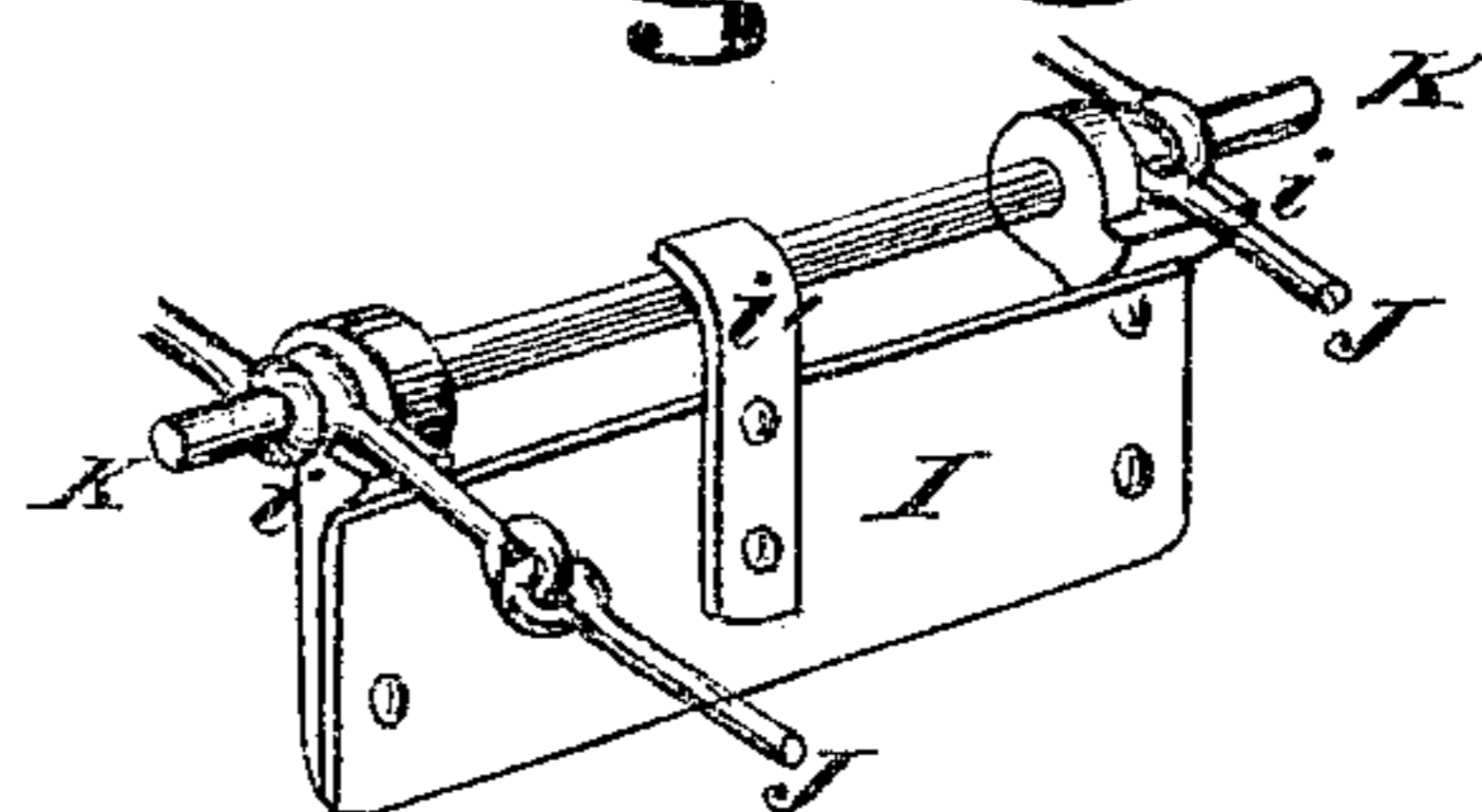


Fig. 3



Attest.

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EDWARD WHITEHEAD, OF CINCINNATI, OHIO.

IMPROVEMENT IN PROPULSION OF VESSELS.

Specification forming part of Letters Patent No. 121,738, dated December 12, 1871.

To all whom it may concern:

Be it known that I, EDWARD WHITEHEAD, of Cincinnati, Hamilton county, State of Ohio, have invented a certain new and useful Improvement in Marine Propellers, of which the following is a specification:

My invention is designed principally for the propulsion of canal-boats where the depth of water below the vessel is not great; and consists of a series of blades or paddles attached to and operated by an endless band or chain, the blades being operated within a channel in the bottom of the boat, and so constructed that they will be preserved in a vertical position in moving from stem to stern of the boat, and in a horizontal position in moving from stern to stem, the object of this construction being to secure prolonged action upon the water and economize space between the vessel's bottom and the bed of the canal.

Figure 1 is a section from front to rear of a canal-boat with my propeller attached. Fig. 2 is an end view, and Fig. 3 a perspective view of one of the paddles detached.

The hull A of the boat is constructed with a channel or trough, B, throughout its entire length, with the exception of a very short distance in front. The rear of this channel is open, as shown, and the front or bow end wholly or partially closed by plate or wall C. This channel or trough is divided into two parts or passages, D E, by the employment of a thin diaphragm, F. At right angles to the keel the rollers or drums G H are journaled, the roller H being constructed with grooves *h* for the reception of the spindles of the paddles. The paddles I are attached to the endless band or chains J J, which the roller H gives motion to. Spindles K, upon which the paddles I

swivel, work in grooves *b* in the channel to prevent displacement of the paddles. The paddles are preserved in a vertical plane, while traveling from stem to stern to propel the boat, by means of the lugs *i*, which project laterally from the paddles and press against the chains J J. The projecting tongues *i'* of the paddles serve to carry paddles over the roller H in such a position that they enter the passage with the swinging end of the paddle forward. In passing forward the paddles lie horizontally, and thus take up but little space in the limited distance permissible between the bottom of the boat and the lowest points of the paddles. As the paddles pass over the roller G they assume the vertical position again, and are retained in that position by the means before explained.

Although my invention is specially applicable to canal-boat propulsion it can be applied successfully to ocean steamers, and when so applied is calculated to economize power, compared either with a wheel or screw. The necessary rotation of roller H can be secured in any convenient way. If the propeller is used for skiff propulsion it will be sufficient to attach a hand-crank to shaft K.

I claim—

In combination with the hull A, constructed with a divided channel, B D E, the rollers G H, band or chains, J J, and swinging-paddles I, when the parts are constructed and operate substantially in the manner and for the purpose specified.

In testimony of which invention I hereunto set my hand.

EDWARD WHITEHEAD.

Witnesses:

FRANK MILLWARD,
WM. R. McCOMAS.

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