W. BALL.

Construction of Canal-Boats.

No. 164,709. Patented June 22, 1875.

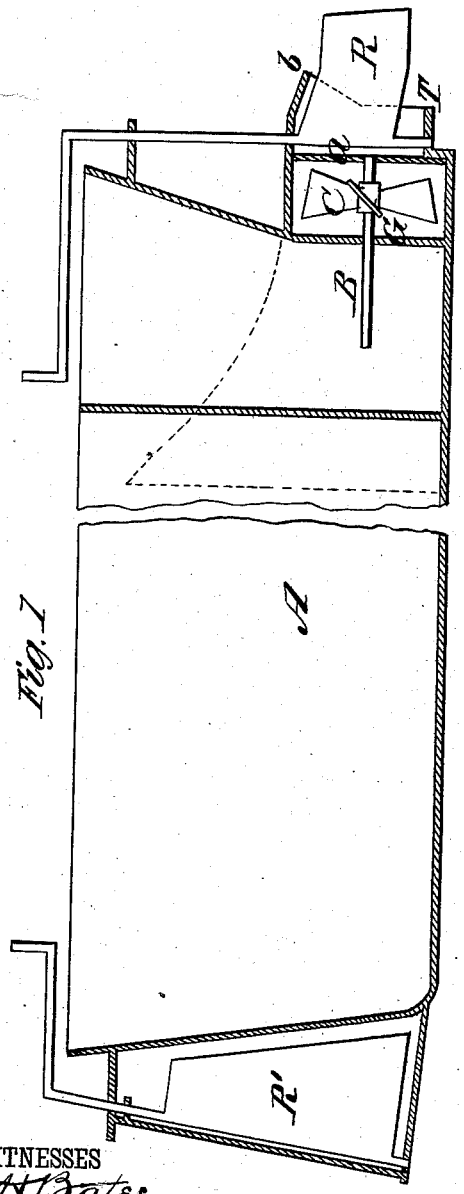

Fig. 1

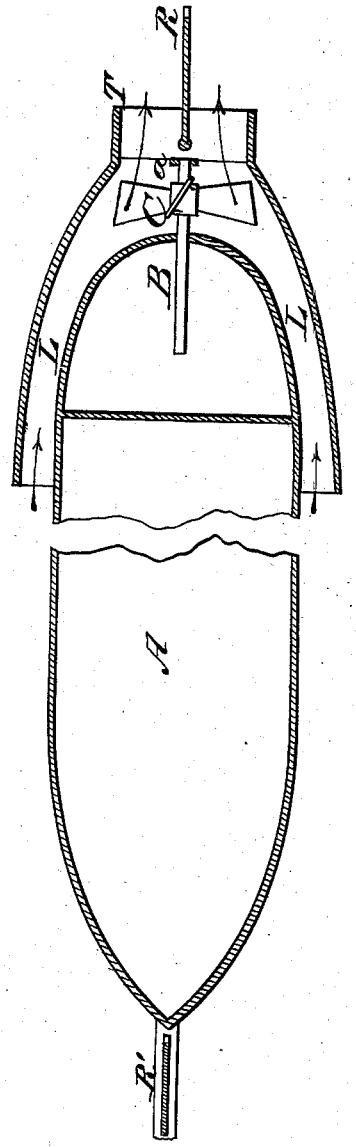

Fig. 2

WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM BALL, OF NEW VIENNA, OHIO.

IMPROVEMENT IN THE CONSTRUCTION OF CANAL-BOATS.

Specification forming part of Letters Patent No. **164,709**, dated June 22, 1875; application filed August 15, 1874.

To all whom it may concern:

Be it known that I, WILLIAM BALL, of New Vienna, in the county of Clinton and State of Ohio, have invented a new and valuable Improvement in Canal-Boats; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal vertical sectional view of my canal-boat. Fig. 2 is a horizontal sectional view of the same.

This invention has for its object preventing, to the greatest practicable extent, the lateral disturbance of the water in canal-boat propulsion; and to this end the nature of my invention consists in the novel construction of a propeller-jacket, as will be hereinafter more fully explained.

In the annexed drawings, A designates the hull of a vessel, in the stern of which is centrally arranged a propeller-wheel, C, which is applied on a shaft, B, actuated by an engine in the usual well-known manner. Directly in rear of the propeller C is a tubular outlet, T, having a deflecting-hood, *b*, which directs the outflowing current of water downward, and thus prevents, in a great measure, violent disturbance of the water in the wake of the boat. This jacket extends forward to that point of the hull of the boat where the sides thereof become parallel to the vertical plane of the longitudinal axis of the boat.

By this means water is allowed to flow into the induction or front ends of the said jacket, in line with the length of the boat, without sudden inward deflection, which, by causing an impingement of the water against the outer walls of the jacket, would greatly delay and obstruct the onward progress of the boat; moreover, conforming as it does to the shape of the hull, it may be economically applied to vessels already in use, without requiring any alterations of their hulls, or any particular form of hull.

Inside of this tube T I arrange the stern-rudder R, the post *a* of which is carried up to the deck and worked in the usual way. The tube T is the rear termination of a jacket, L, which extends forward on both sides of the hull, as shown in Fig. 2, and is open in front, for the free ingress of water as the boat is propelled.

The front open ends of the jacket have nearly the same vertical depth as the hull, and are funnel-shaped; and the upper portion extends above the water-line, and gradually descends to the propeller-tube, to direct the water downward and rearward into the propeller.

It will be seen that the jacket incloses the wheel C on top and bottom, and at the sides, and thus prevents lateral agitation of the water by the revolution of the wheel.

I apply at the bow of the boat a rudder, R′, the post of which is inclined backward, so as to have its upper end as near as possible to the bow, and at the same time use a broad blade. By means of this rudder R′ and the stern-rudder R the boat can be moved broadside on with very little headway.

I am aware that propellers have been arranged inside of tubes; also, that side guards or plates have been arranged on their sides; but I make no broad claim to such contrivances.

What I claim as new, and desire to secure by Letters Patent, is—

The propeller-jacket herein described, having the funnel-shaped induction-branches L L, extending forward along the sides of the boat beyond the point where said sides become parallel, the tops of said branches extending upward above the water-line in front, and gradually descending to the propeller-tube, terminating in the deflecting-hood *b*, as shown and described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM BALL.

Witnesses:
I. TROTH,
BENNETT MURRELL.