

I. J. WISTAR.

Coupling and Steering Train-Boats.

No. 134,341.

Patented Dec. 24, 1872.

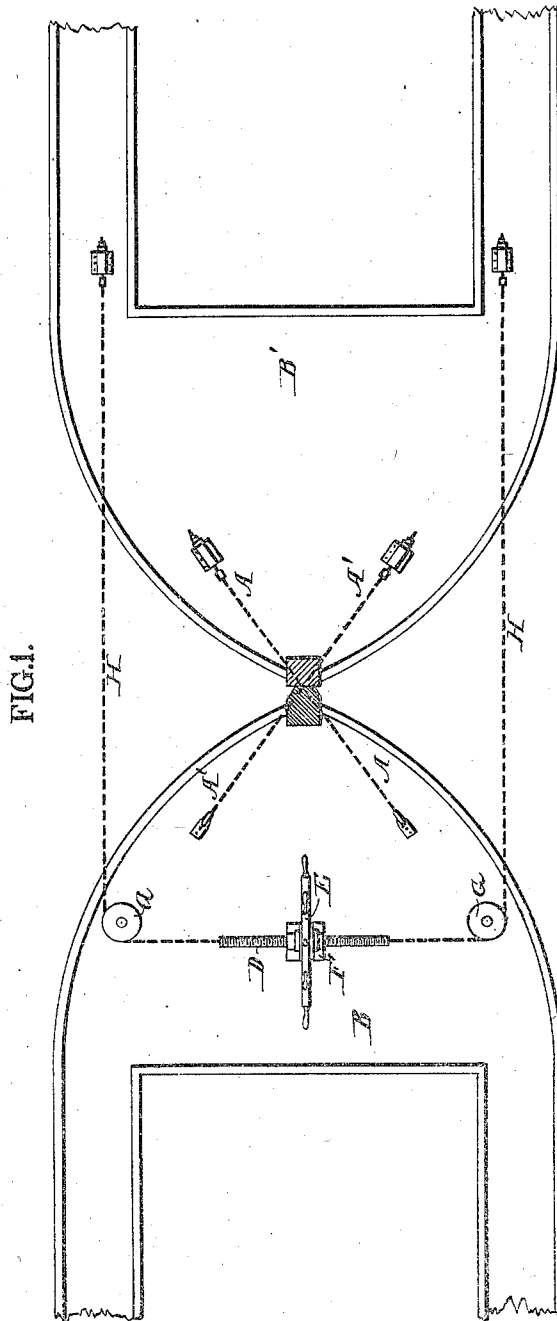


FIG. 1.

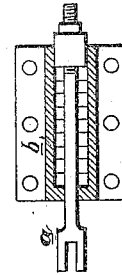


FIG. 2.

WITNESSES. *Harry Smith*  
*Thomas McSwain*

*Isaac J. Wistar*  
*by his Attn.*  
*Howson and Son*

# UNITED STATES PATENT OFFICE.

ISAAC J. WISTAR, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN COUPLING AND STEERING TRAIN-BOATS.

Specification forming part of Letters Patent No. 134,341, dated December 24, 1872.

*To all whom it may concern:*

Be it known that I, ISAAC J. WISTAR, of the city and county of Philadelphia, State of Pennsylvania, have invented certain Improvements in Steering Canal-Boats, of which the following is a specification:

My invention relates to the well-known mode of steering coupled canal-boats by changing their angles in respect to each other, an example of this mode being described in the English patent of W. H. Bartholomew, February 7, 1862. The objects of my invention are simple and effective appliances for coupling the boats together, and an efficient, economical, and easily-operated steering apparatus.

I attain the first object by coupling-chains A A', secured to the adjoining boats B B', and crossing each other, as shown in the plan view, Figure 1 of the accompanying drawing, so that while the stern-post of one boat is maintained in contact with and in the proper lateral position in respect to the cut-water of the other boat, by the crossed chains, the latter will permit the boats to assume different angles in respect to each other. By crossing the chains as described the necessity of devices for taking up or letting out portions of the chains as the boats alter their respective positions is avoided. The second object I attain by a screw, D, of which the hub of a steering-wheel, E, mounted on a standard, F, on one of the boats B, is the nut, the opposite ends

of the screw being connected to chains H H, which pass around sheaves G G, and extend thence to the boat B', where they are secured to the deck, one chain near one side and the other near the opposite side of the said boat, so that by operating the steering-wheel the coupled boats may be made to assume different angles in respect to each other.

I prefer to connect both coupling and steering chains to the boats in the manner shown in Fig. 2, each chain being attached to a bolt, a, passing through a box, b, secured to the deck, the bolt being secured by a nut to a block arranged to slide in the said box, and bearing against a spring contained within the same, so that the bolts can yield to a limited extent when the chains are subjected to great strains.

I claim as my invention—

1. The coupling-chains A and A', crossing each other and connected to the boats, as and for the purpose set forth.

2. The steering apparatus, consisting of a wheel, E, hung to a standard on one boat, and having a hub adapted to a screw, D, connected by chains H to the other boat, all substantially as and for the purpose herein described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

Witnesses: ISAAC J. WISTAR.

WM. A. STEEL,  
HUBERT HOWSON.