

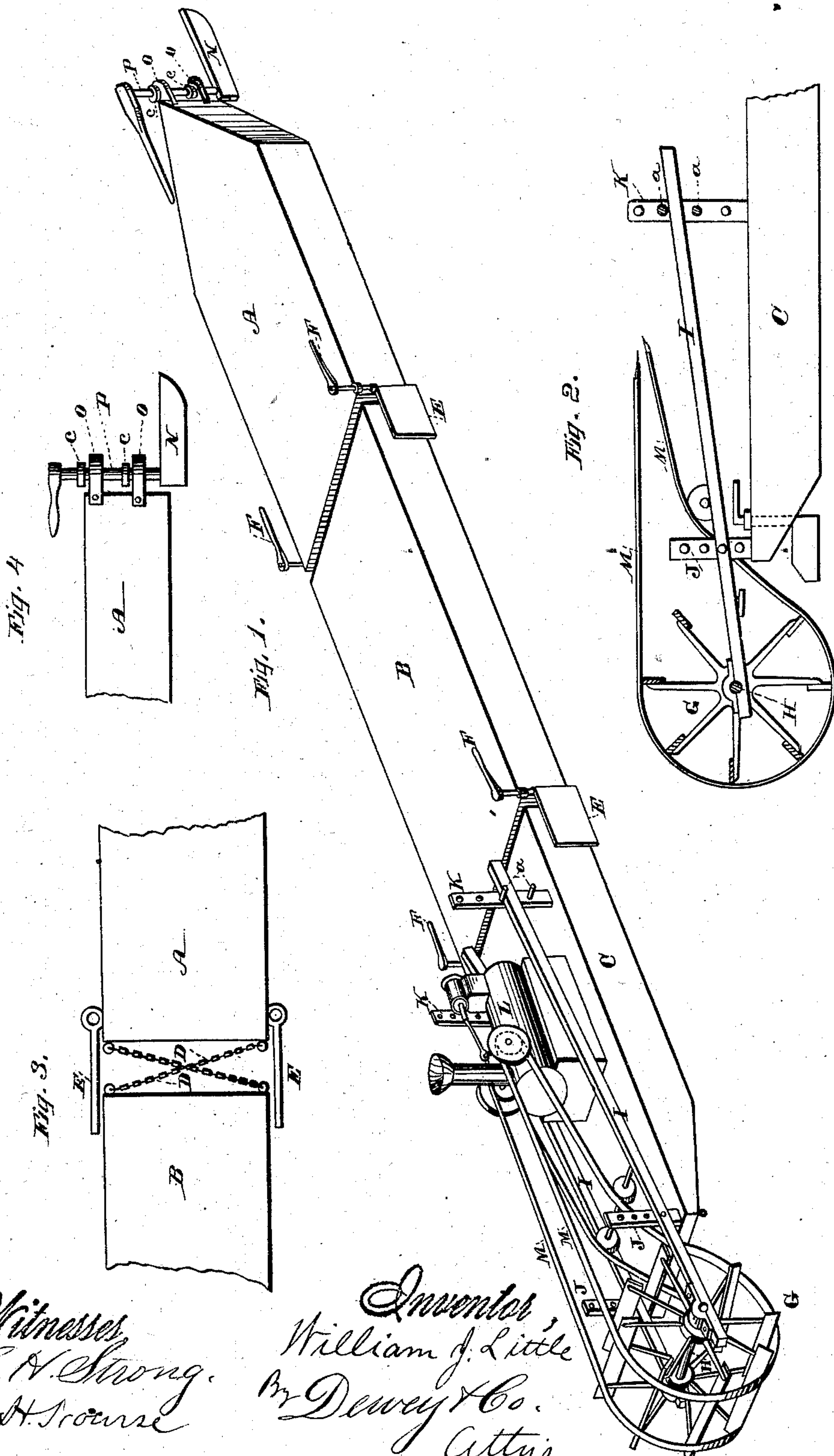
(No Model.)

W. J. LITTLE.

TRAIN BOAT.

No. 254,878.

Patented Mar. 14, 1882.



Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM J. LITTLE, OF STOCKTON, CALIFORNIA.

## TRAIN-BOAT.

SPECIFICATION forming part of Letters Patent No. 254,878, dated March 14, 1882.

Application filed June 22, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM J. LITTLE, of Stockton, county of San Joaquin, State of California, have invented Improvements in Train-Boats; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to certain improvements in train-boats; and it consists in supplemental rudders pivoted to each side of the rear ends of the boat-sections, so that said rudders cover the space intervening between the sections of the boat and prevent a rush of water in between them when the train-boat is in motion. The supplemental rudders also aid the main rudder in steering when required.

Figure 1 is a perspective view of my invention. Figs. 2, 3, and 4 are details of construction.

The object of my invention is to provide a boat capable of navigating shallow waters. In low rivers in which the channel is tortuous it is impossible to use a single long boat, because it cannot follow the turns of the stream without running its prow into the bank. It is therefore necessary to obtain the requisite length while still making provision for the windings of the stream. For this purpose a train of short boats is made, each one being capable of turning independently of the others, and thus causing the whole line to adapt itself to the windings of the channel.

Let A represent the front boat. It is made sharp at the front and provided with a rudder, as hereinafter explained. Its stern is square. Let B represent the next boat with a square front and rear, and C the third boat, and so on indefinitely.

The method of coupling is as follows: Attached to the rear corners of boat A are chains D D, crossing each other between the boats, and having their other ends attached at opposite corners of the front of boat B. This makes a joint at each corner of the boats and allows

them to turn independently. Now, when the forward boat is turned it opens an angle between it and the boat following, and, if nothing prevented, the water would rush in and tend to retard progress. To provide for this I have the rudders or side flanges, E E, on the forward boat A. These have operating-levers F F, and extend rearwardly by the sides of the boat B. They cover up the ends of the line of contact, and, being adapted to swing from side to side, are always held by the water close to the sides of boat B, and thus protect the joint. They also serve the purpose of additional steering apparatus, and can be used individually upon each boat when for any reason the train does not answer to the main rudder in front. Each boat is joined to the other in the manner described, and each joint is protected by the side rudders, E E.

I am aware that heretofore supplemental rudders have been applied to the ends of each section of a train of boats for the purpose of steering; but I am not aware the said rudders have been combined with such boats so as to cover the space intervening between the sections, which is essentially my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a train of boats coupled appropriately, as by the cross-chains D D, the supplementary rudders or flanges E, extending from the boat-section preceding, along the sides of the boat-section following, and covering the ends of the joint or line of contact between the boat-sections, substantially as and for the purpose described.

In witness whereof I have hereunto set my hand.

WILLIAM J. LITTLE.

Witnesses:

WM. F. BOOTH,  
S. H. NOURSE.