P. EMERSON.

Sectional Boats.

No. 154,545. Patented Sept. 1, 1874.

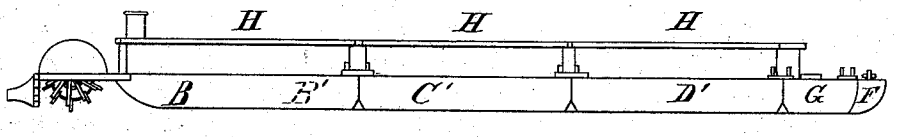

Fig. 1.

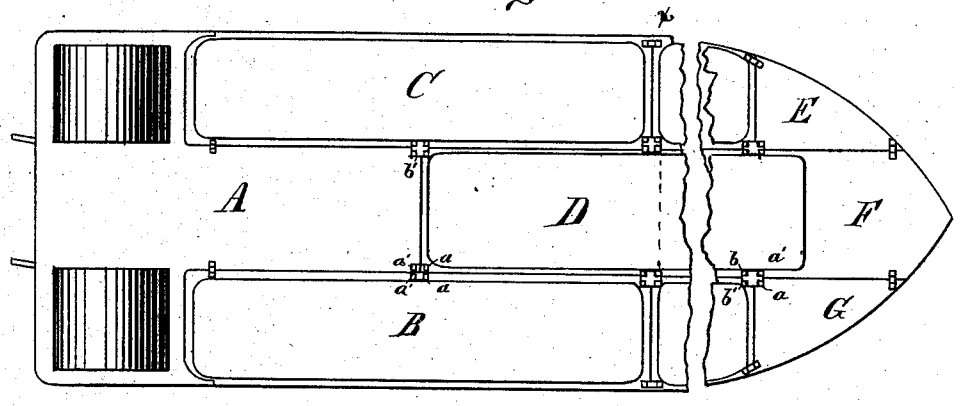

Fig. 2.

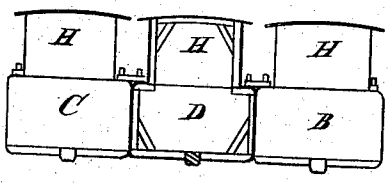

Fig. 3.

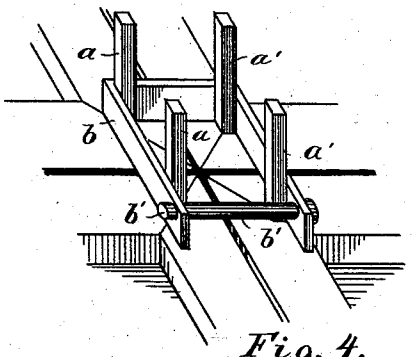

Fig. 4.

Witnesses:

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UNITED STATES PATENT OFFICE.

PRIMUS EMERSON, OF ST. LOUIS, MISSOURI, ASSIGNOR TO HIMSELF AND JAMES DOYLE, OF SAME PLACE.

IMPROVEMENT IN SECTIONAL BOATS.

Specification forming part of Letters Patent No. **154,545**, dated September 1, 1874; application filed May 27, 1874.

To all whom it may concern:

Be it known that I, PRIMUS EMERSON, of St. Louis, Missouri, have invented an Improved Steam Sectional Tow-Boat, of which the following is a specification:

In this invention the steamboat or propeller forms the stern; but, in place of its ordinary bow shape, said propeller is adapted to have abreast, in rows not less than three, any number of files of section barges or tows, as deemed practical, and of the latter those forming the bow being bow-shaped to complete the bow of the propeller proper. The barges, with each other and with steamboat, are firmly united, yet readily can be disengaged, as emergency requires, and the entire combination of tows and propeller virtually making but one complete steam-vessel, as will hereinafter more fully appear.

Of the drawing, Figure 1 is a side elevation. Fig. 2 is a top plan. Fig. 3 is a transverse section on line *x x*. Fig. 4 is a detail perspective, showing manner of connecting two sectional barges.

A, Fig. 2, represents a side-wheel steamboat or tow-vessel. Said vessel completes the stern of what I term my "sectional tow-boat." The bow of the steam-vessel A should have a square-shaped deck, as indicated in Fig. 2. The sectional barges are represented by B C D, Figs. 2 and 3, those of B C being positioned on each side of the propelling-boat, that of D being in front thereof. By thus conforming the propelling-boat and sectional barges with each other, as shown in Fig. 2, the latter take up the same width as that of the former with its side wheels. In order to unite, secure, or couple the sectional barges B C D with the propelling-boat A, I provide the same with two uprights or timber-heads, as at *a*. Similarly I provide the sectional barges B C D each with two timber-heads, as at *a'*. (See Figs. 2 and 4.) These timber-heads *a a'* can be lashed together by hawsers. I prefer, however, to use stirrups *b*, and couple the open ends thereof by keys *b'*, as shown in Fig. 4. It is thus only necessary to disengage the key *b'*, to loosen the stirrups, and to disengage the steamboat A from its barge-sections B C D, or any or all of the latter from the former.

The sectional barges B C D can be duplicated, as shown at B' C' D', Fig. 1, or as many barges can be added as practical, the sections having square-shaped deck ends being positioned in the center, so that they come close together. The manner of connecting each and all of the additional barges will be similarly done by securing the timber-heads by stirrups *b* and keying same, as before stated, and specially shown in Fig. 4.

E F G represent the section-barges that complete the bow part, as shown in Figs. 1 and 2. Said sections have their hull and deck parts shaped to correspond with the ordinary bow shape of a vessel. The bow-barges E F G have their timber-heads similarly connected by stirrups and keys, as aforesaid, to the contiguous barges.

Instead of the sectional feature for the bow part, in which three sections in width complete and form the bow, the same can be of one entire section or barge, but made to conform and retain the bow shape.

H represents the chambers on top of the deck of each barge, as ordinary, to carry grain and other cargo. Around said freight-chamber there is sufficient room on deck to allow for the coupling and uncoupling, as emergency requires, of each barge. Thus a sectional steam tow-boat is made of any size and number of sections, so as to be shortened and lengthened at will; and when combined and being towed there is virtually formed a complete and continuous hull, conforming in appearance to the hull of ordinary vessels.

The ordinary way of building and towing barges and freight-vessels present the following difficulties: Said barges are built, in many cases, of uncouth shape, are difficult to handle, and when abreast, or singly with a propelling-boat, more than one bow is presented, which necessarily impedes the towing, and permits drift, ice, and obstructions to come between the bow parts. Again, while being towed said barges frequently get aground and frequently are sunk and lost.

All these inconveniences and difficulties are greatly avoided by my sectional tow-boat. As any barge (section) can be readily disengaged in case of emergency, the danger to sinking and loss is greatly avoided, also the difficulties encountered when aground and when shallow rivers are being navigated. The single bow presented in my case obviates the impediments to towage aforesaid; also, in my improvement there is facility in handling each or all barges, coupling them together, ease of towage, greater capacity for freight transportation, and otherwise there is incurred less labor, time, and expense—advantages all readily apparent. Not only for freight, but also for passengers, live stock, and other purposes, my said invention is applicable.

What I claim is—

The combination of the section barges or tows (three abreast) with a steam-propeller, that forms the stern, and the bow-shaped sectional tows, forming the bow of said steam-vessel proper, and when combined and fastened together said barges and steam-vessel form one complete steam sectional tow-boat, substantially as herein shown and described.

In testimony of said invention I have hereunto set my hand.

PRIMUS EMERSON.

Witnesses:

JAMES DOYLE,

WILLIAM W. HERTHEL.