

Ingram & Kennedy.

Lighter for Vessels.

N^o 67,433.

Patented Aug. 6, 1867.

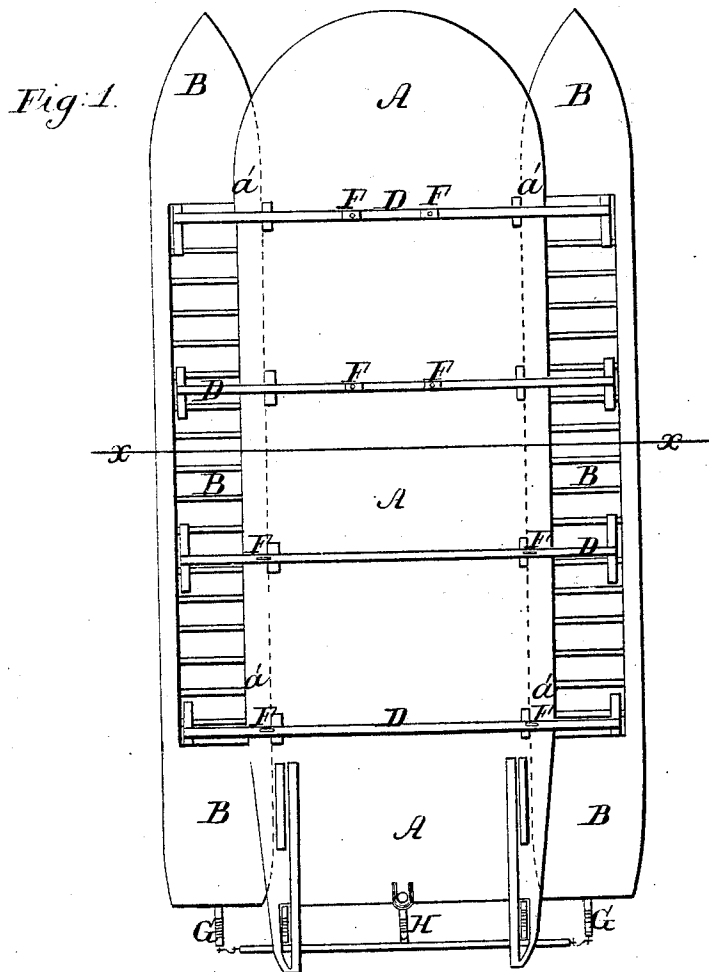
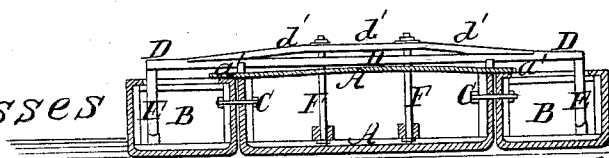


Fig. 2.



Witnesses

*Theo Insele
Wm Spurn*

Inventors

*O. H. Ingram
D. Kennedy
Per their Attys.
Munroe*

United States Patent Office.

ORRIN H. INGRAM AND DONALD KENNEDY, OF WEST EAU CLAIRE,
WISCONSIN.

Letters Patent No. 67,433, dated August 6, 1867.

IMPROVED LIGHTER FOR VESSELS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, ORRIN H. INGRAM and DONALD KENNEDY, of West Eau Claire, in the county of Eau Claire, and State of Wisconsin, have invented a new and useful Improvement in Lighters for Vessels; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same. reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents our improvement attached to a vessel.

Figure 2 is a vertical cross-section of the same, taken through the line *x x*, fig. 1.

Similar letters of reference indicate corresponding parts.

Our invention has for its object to enable a vessel, built sufficiently strong to run in the swift current of rivers during high water, to run during low water, or in shallow streams; and is especially designed for use upon the western and southern rivers, which are deep and rapid during part of the year, and very low or shallow during another part; and it consists in the combination of lighters or barges with the hull of the vessel in the manner hereinafter more fully described.

A represents the hull of a stern-wheel river steamer, to which class of vessels our improvement is best adapted. B are two lighters or barges, of the same length as the boat A. The lighters B are attached to the hull A, just beneath the guards *a'*, and are secured in place by the bolts C passing through the side timbers of the boat A and through the side timbers of the lighters B. D are beams crossing the boat A at right angles to its length, with their ends resting upon the posts E, the lower ends of which rest upon suitable timbers attached to the lighters B. The timbers or beams D may be a single stick, of sufficient size and strength, or they may be strengthened with braces *d*, as shown in the drawings. The beams D are connected and secured to the boat A by bolts F passing through them and through the keelsons or bottom timbers of said boat A, as shown in fig. 2, or by being secured to eye-bolts, or their equivalents, permanently attached to the frame of the boat A. The rudders G of the lighters B are connected with the rudder H of the boat A, so that their movements may be controlled by the movement of the said rudder H. The lighters B are so attached to the boat A that during the season of high water they may be removed and the boat A used without them.

By this improvement first-class boats built of sufficient strength and power to stem the rapid currents of high water may be run upon very shallow streams.

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

Removably attaching lighters B to the hull or a boat, A, substantially as herein shown and described and for the purpose set forth.

The above specification of our invention signed by us this 17th day of May, 1867.

ORRIN H. INGRAM,
DONALD KENNEDY.

Witnesses:

GEO. A. RATLER,
J. RANDALL