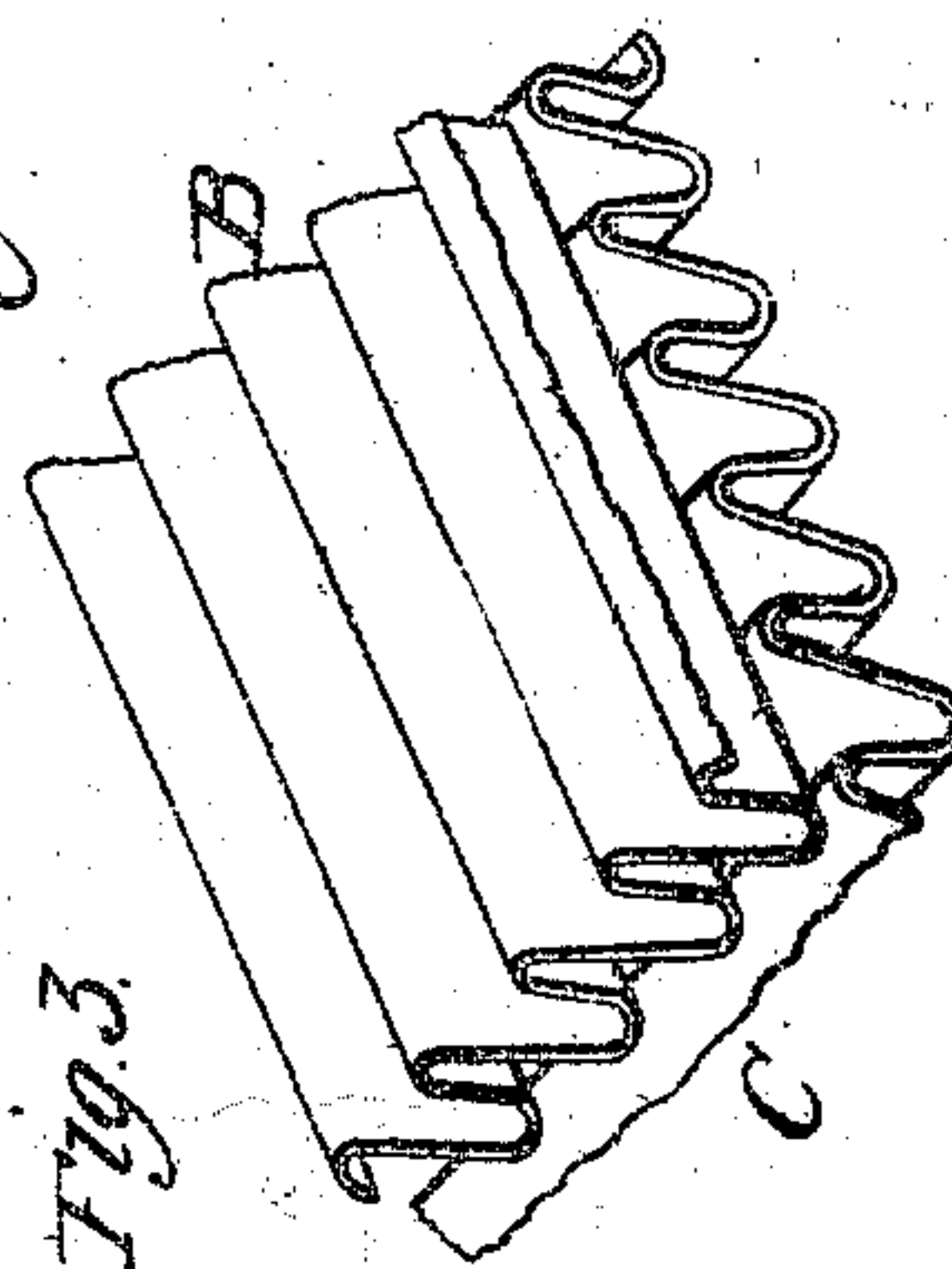
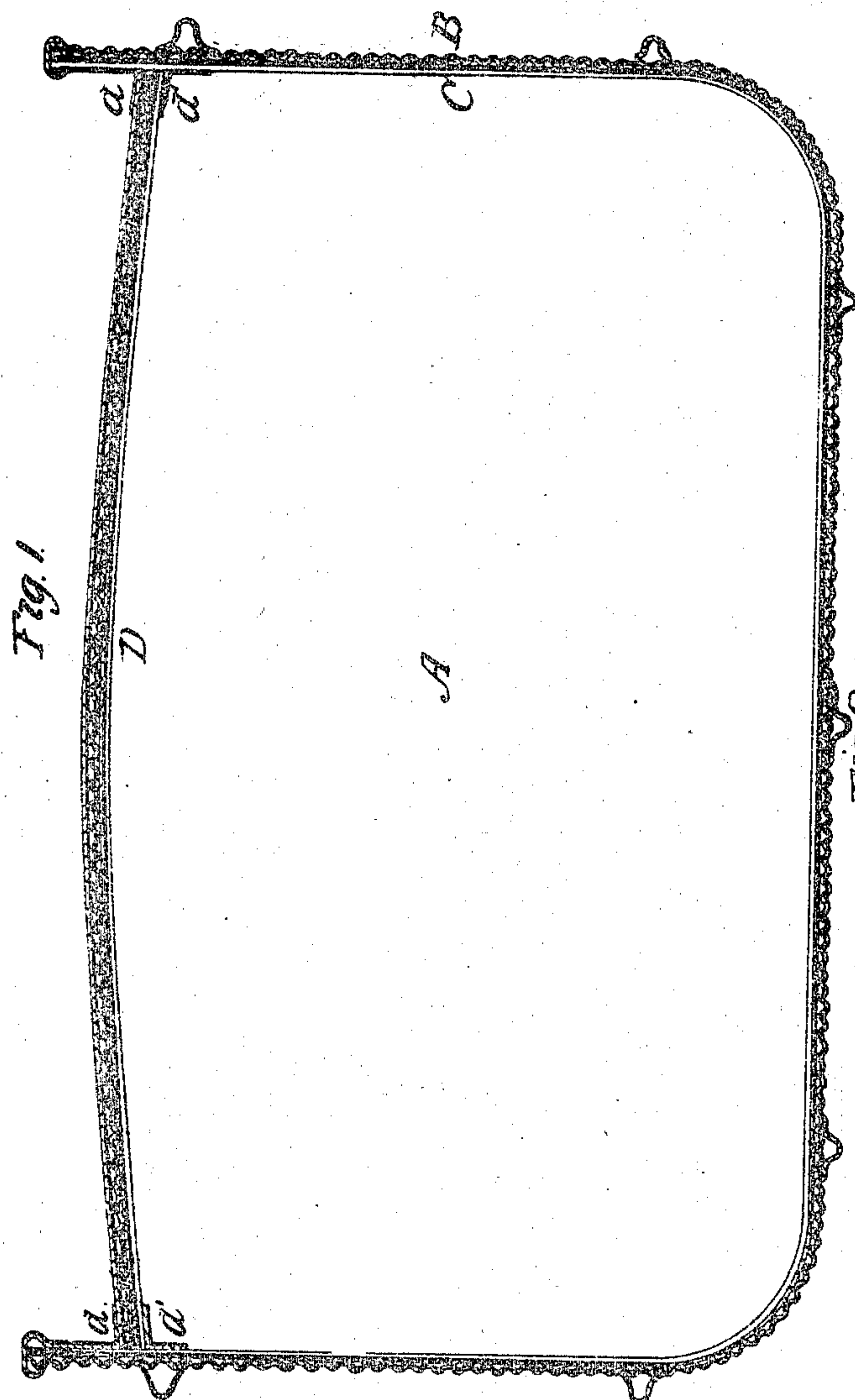


No. 32,403.

PATENTED MAY 21, 1861.

S. J. SEELY.
CONSTRUCTION OF IRON VESSELS.



WITNESSES:

Francis S. Low
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SAMUEL J. SEELY, OF BROOKLYN, NEW YORK.

CONSTRUCTION OF IRON VESSELS.

Specification of Letters Patent No. 32,403, dated May 21, 1861.

To all whom it may concern:

Be it known that I, SAMUEL J. SEELY, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in the Construction of Iron Vessels; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, representing my improvements applied to the construction of a canal-boat, and to the letters of reference marked thereon, in which—

Figure 1 is a vertical section, taken through the center of the length of the boat. Fig. 2 is a section and Fig. 3 a perspective view of the side of the hull on an enlarged scale to show more clearly the construction and attachment of the duplicate plates.

The purpose and object of my invention is to produce the requisite degree of strength with the least possible weight of material in an iron vessel, and it consists in forming the hull and deck or decks of the vessel of two or more plates (or thicknesses) of corrugated iron having the corrugations on one plate placed at a right angle to those of the other (but having in all cases the corrugations of the exterior or "planking" plates running longitudinally with the vessel); dispensing entirely with all framing and bracing now used to impart to the hull and decks the required degree of strength.

The use of iron for constructing vessels has greatly increased within the past few years both in this country and abroad for the reasons of the greater security given to the vessel from damage or loss by fire; the decreased weight and therefore decreased immersion of the vessel; and the increased capacity and greater endurance of it, but the application of iron has without exception followed in the beaten track of that of wood—iron "frames," "braces," "ceilings" and "planking" taking the place of wooden structures of the same kind—the "frames" have been uniformly used, the "braces" required in wooden vessels of similar size have been applied in the same fashion, and the "ceilings" and "planking" have followed their wooden types as nearly as possible.

By my improvement, I dispense entirely with the "frames" and "braces" heretofore uniformly used and depend entirely upon the greatly increased strength of the ma-

terial used by me for the hull and deck or decks; greater strength being imparted to the hull by increasing the thickness and weight of the plates used in the parts of the hull upon which the greatest amount of strain comes to an amount equal to that of the weight of the frames and braces, than would be imparted to it if the frames and braces were used.

A is a section of the hull of a vessel with a single deck, constructed of duplicate plates of iron corrugated as shown—the exterior or "planking" side, B, having its corrugations running longitudinally, and the interior or "ceiling" side, C, having its corrugations running vertically. These plates are bolted or riveted together at proper distances to hold them securely together, and the different plates constituting the outer and inner sides are calked or otherwise made tight where they join together. The "planking" C has its corrugations running longitudinally, for the easier passage of the hull through the water, and in case of a sea-going vessel, for imparting to the hull an extra amount of buoyancy through the waves striking into and against the corrugations having a tendency to prevent the hull sinking or plunging into the sea to the degree that it would if the corrugations were placed vertically on the planking side, or if the planking were formed of plain plates.

D is the deck, formed of duplicate plates, the same as the hull, to impart to it a greater degree of strength to bear a burden or direct strain, or to resist a lateral strain, than if made of plain plates of iron, or if made of wood in the ordinary manner. The angle irons, *a. a'* secured to the inside of the hull at each side beneath and above the deck, and also secured to the deck by proper bolts or rivets not only retain the deck in position and serve materially to strengthen the hull, but also serve as a water-way, by the use of the upper one, to act as a conductor to carry the water off from the deck to the scuppers.

The immense increase of strength imparted to the iron used in the hull and deck of the vessel by corrugating the iron as shown is too well known to require further explanation—the advantage of duplicating the corrugated plates (as shown) to increase the strength of the hull and deck is equally

well known and therefore requires no further notice.

. In large vessels, where the requisite degree of strength might require the use of
5 more than a pair of plates, as shown in the drawings, the additional plates would be applied to the inner side of the hull, leaving the exterior or "planking" plates with their corrugations running longitudinally, the second
10 plates, with their corrugations, running vertically to the first, and the additional plates following in the same order.

The iron deck is covered by a light wooden deck to produce a plain surface, and the
15 interior of the hull, on the bottom, may be covered similarly for the same purpose.

I do not claim the use and application of corrugated iron plates in or to the construction of vessels, or the application of dupli-

cate corrugated plates, as shown, to the same purpose, but,

What I do claim as my invention and desire to secure by Letters Patent is—

The application of two or more series of iron plates to the construction of vessels, 25 corrugated and arranged as herein described, for the purpose of imparting to the hull of the vessel the requisite degree of strength without the use of "frames" and "braces", when the outer or "planking" 30 series of such plates is applied with its corrugations running longitudinal with the hull as herein set forth.

SAML. J. SEELY.

Witnesses:

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