Sept. 1, 1931. R. CURR 1,821,882

SHIP CONSTRUCTION

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Fig. 1.

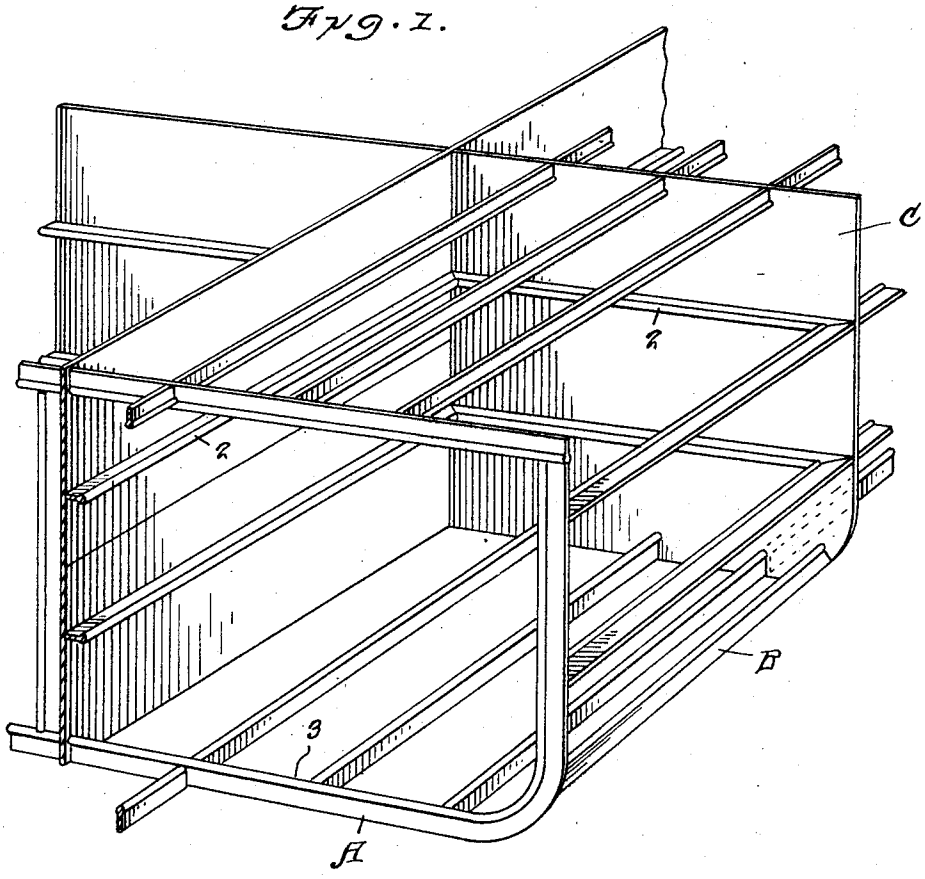


Fig. 5.



Fig. 6.



Fig. 7



Fig. 8.



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Fig. 2.

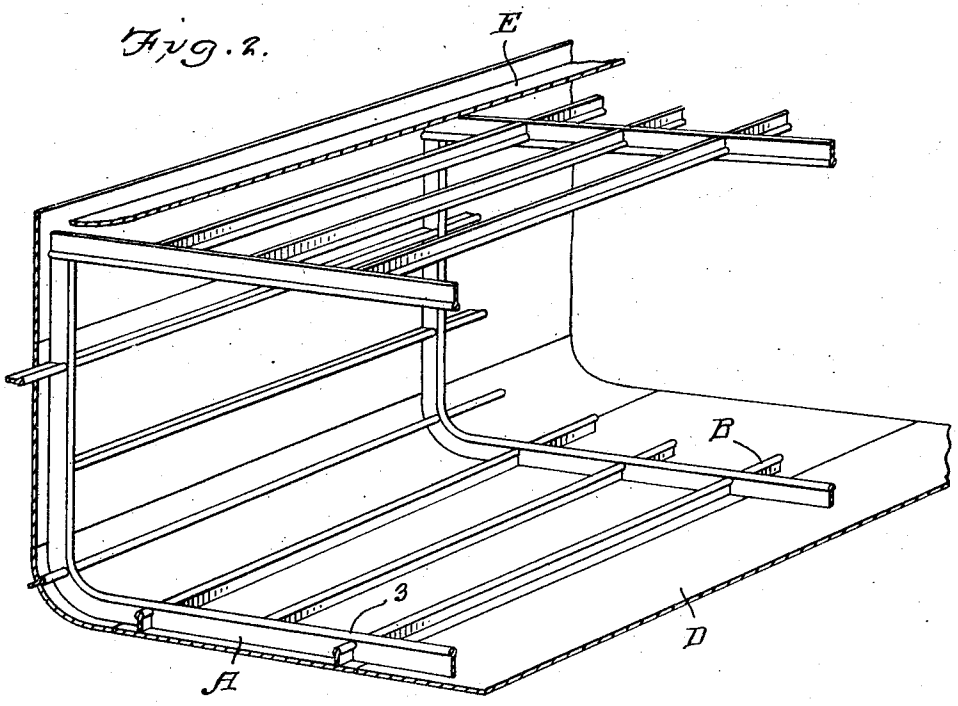


Fig. 3.

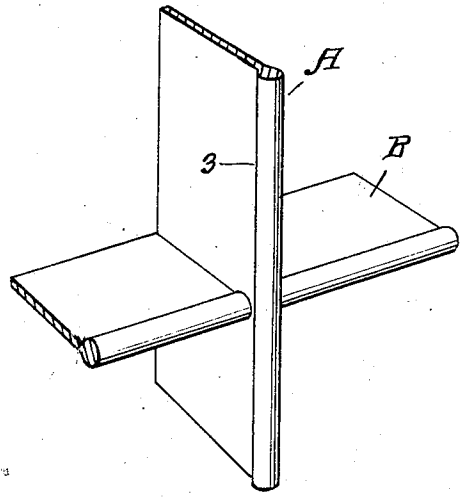
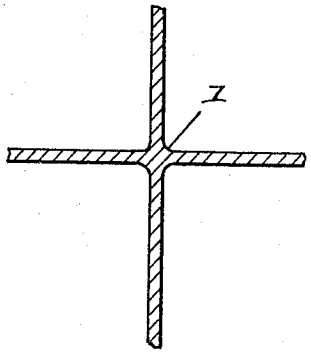


Fig. 4.



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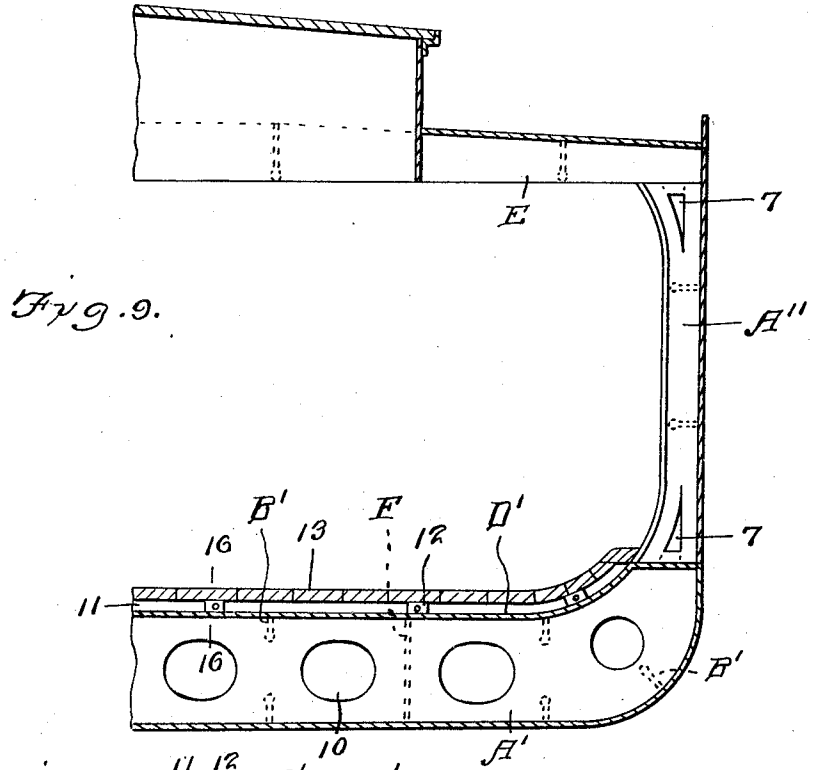


Fig. 9.

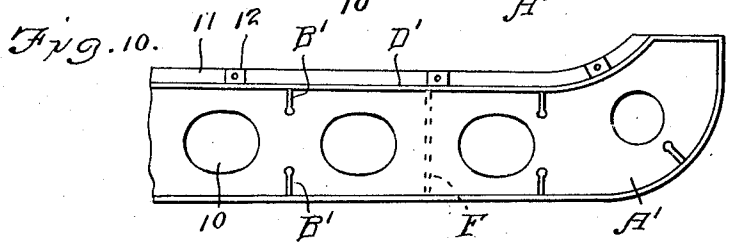


Fig. 10.

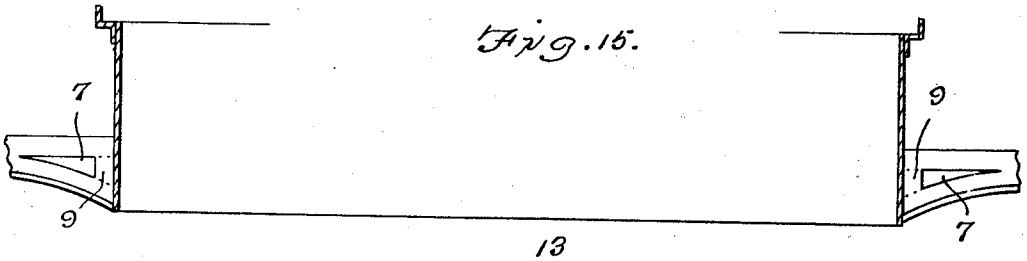


Fig. 15.

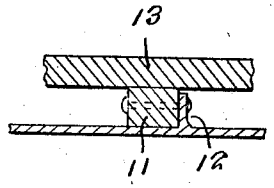


Fig. 16

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Fig. 11.

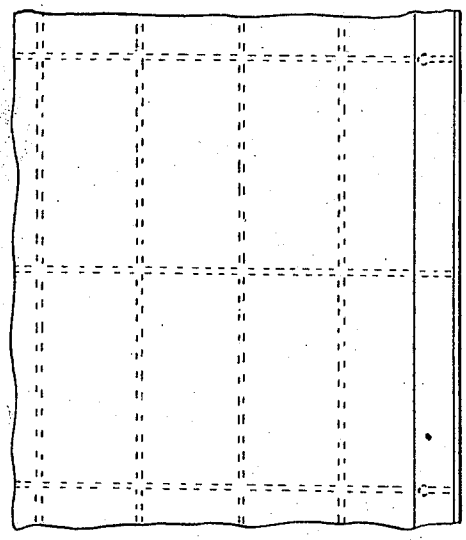


Fig. 12.

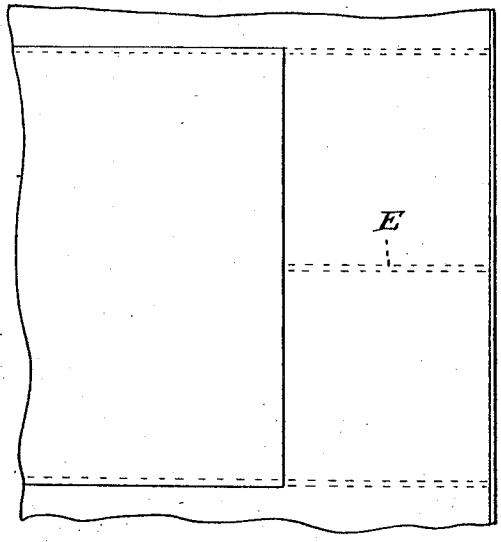


Fig. 13.

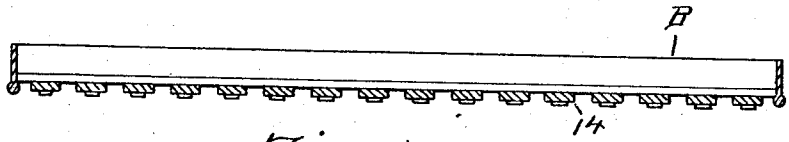
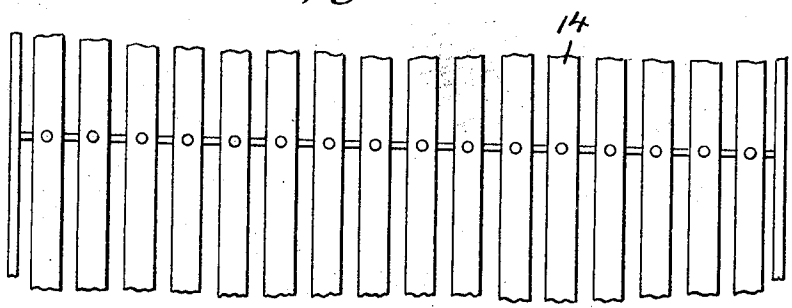


Fig. 14.



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Patented Sept. 1, 1931 1,821,882

UNITED STATES PATENT OFFICE

ROBERT CURR, OF PORTSMOUTH, VIRGINIA

SHIP CONSTRUCTION

Application filed November 14, 1930. Serial No. 495,735.

This invention relates to an all welded ship, the general object of the invention being to so construct and arrange the parts and to so weld the parts together that the hull will have the maximum strength and carrying capacity, with a saving of material and labor.

Another object of the invention is to so cut the longitudinally extending beams that they will fit between the transverse beams or webs and bulkheads (if the same are used), and to weld the beams to the webs and bulkheads so that the longitudinal beams really form continuous girders from bow to stern.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claim.

In describing the invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a fragmentary perspective view showing how the invention is carried out in forming a ship with bulkheads.

Figure 2 is a similar view, but showing the ship without bulkheads.

Figure 3 is a perspective detail view, showing how the longitudinal beams are welded to a transverse beam or web.

Figure 4 is a sectional view through Figure 3.

Figures 5, 6 and 7 are views showing how the beams can be strengthened by enlargements at one edge thereof.

Figure 8 is a view showing a beam without the strengthening means, but formed of thicker stock.

Figure 9 is a sectional view through a different form of ship.

Figure 10 is a view of one of the bottom webs of the ship shown in Figure 9, with the floor receiving strip connected thereto.

Figure 11 is a plan view of the bottom part of the ship shown in Figure 9.

Figure 12 is a plan view of the ship shown in Figure 9 and showing the hatch.

Figure 13 is a sectional view showing how the battens are fastened to the inner edges of the beams.

Figure 14 is a fragmentary elevation showing the battens.

Figure 15 is a sectional view through the hatch.

Figure 16 is a section on line 16—16 of Figure 10.

In these views, the letter A indicates the webs or transverse beams and the letter B the longitudinally extending beams. The bulkheads are shown at C in Figure 1.

In carrying out the invention, the beams B are cut to fit in the spaces between the webs and between certain of the webs and the bulkheads when the bulkheads are used. The beams B are welded to the webs and bulkheads, the welding of the beams to the webs being shown at 1 in Figure 4. The beams B are so placed that they really form continuous girders from the bow to the stern. Where the bulkheads are used, the webs are formed in sections, with the inner ends of the sections abutting certain of the bulkheads and welded thereto, as shown in Figure 1. The bulkheads may be strengthened by the beams 2 welded thereto, with the cross beams 2 welded to the ends of the beams 2 and to some of the beams B. These beams B are placed at the bottom, the sides and top of the ship, as shown in Figures 1 and 2, and the side plates and bottom plates D, as well as the deck plates E, are welded to the edges of the beams A and B and when bulkheads are used, these plates are also welded to the edges of said bulkheads.

The beams A and B are reinforced by forming one edge of each beam with an enlargement 3, as shown in Figure 5, or by turning an edge of the beam into a roll, as shown at 4 in Figure 6, or by bending over an edge to cause said edge to rest against a part of the beam, as shown at 5 in Figure 7. If such reinforcing means are not used, then the beam should be made of thicker stock, as shown at 6 in Figure 8.

I may also form the various beams of light stock and split the ends, as shown at 7 in Figures 9 and 15 and separate the split portions and then weld a piece 9 between the spaced ends of the split portions. This increases the area of the section which is to be welded to another part.

In certain types of vessels, instead of forming the webs with vertical portions, as shown in Figures 1 and 2, I form the webs as shown at A′ in Figures 9 and 10, which shows the web of considerable size, with its ends turned slightly upwardly. In this case, the webs are formed with manholes 10 and longitudinally extending beams B′ are connected with the upper and lower parts of the webs, these beams B′ being spaced apart so as to permit a workman to pass between them. Top plates D′ are welded to the upper edges of the webs A′ and webs A″ have their lower end welded to those portions of the plates D′ which are connected to the flat top portions of the ends of the webs. These vertical beams may have their ends split and separated, as shown in Figure 9, and the deck beams E are welded to the upper ends of the vertical webs. Thus the construction shown in Figure 9 is practically the same as that shown in Figures 1 and 2, except that the webs are formed in sections, with the vertical sections A″ welded to the bottom sections or to portions of the plates on said bottom sections and the bottom sections are made much larger and inner and outer sets of the beams B′ are connected with the bottom sections A′. If desired, longitudinally extending plates F may have their ends welded to the members A′, these plates also having manholes therein.

Floor strips 11 rest on the plates D′ and are fastened to clips 12 welded to the plates so that a flooring 13 can be nailed or otherwise fastened to these strips.

When necessary or desirable, cargo battens 14 may be fastened by screws or the like to the beams B at the sides of the hull, as shown in Figures 13 and 14.

Where a hatch occurs, the deck beams E have their ends welded to the walls of the hatch as shown in Figure 15. Thus it will be seen that I have provided a hull, all parts of which are welded together in such a manner as to secure the maximum strength, with the minimum amount of material and as pillars and the like are not used, the ship will have the maximum carrying capacity.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claim.

What I claim is:—

A ship having its hull composed of a frame comprising transversely extending members, longitudinally extending members formed in sections, the sections being arranged between the transverse members and having their ends welded to said members, certain of the members having their ends split and separated, with a piece placed between the separated ends at each end of the member and welded thereto.

In testimony whereof I affix my signature.

ROBERT CURR.