A. MUHLEISEN.
Ship-Building.

No. 198,248. Patented Dec. 18, 1877.

FIG 1

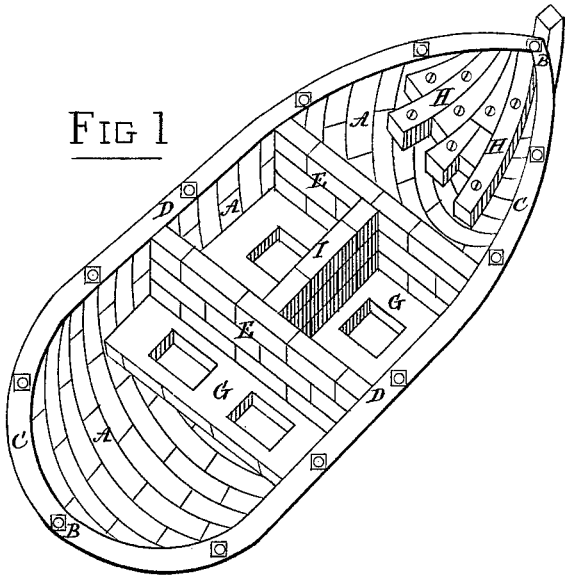
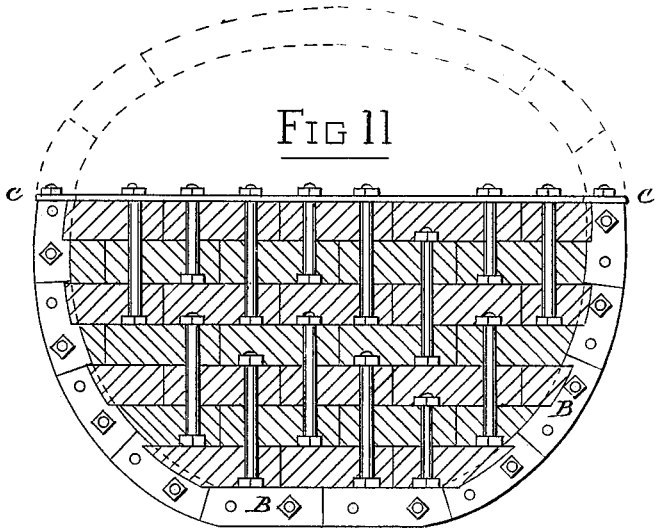


FIG 11



WITNESSES

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UNITED STATES PATENT OFFICE.

ANDREW MUHLEISEN, OF OTTAWA, OHIO.

IMPROVEMENT IN SHIP-BUILDING.

Specification forming part of Letters Patent No. **198,248**, dated December 18, 1877; application filed September 19, 1877.

To all whom it may concern:

Be it known that I, ANDREW MUHLEISEN, of Ottawa, in Putnam county and State of Ohio, have invented Improvements in Methods of Ship-Building, of which the following is a specification:

This invention has for its object the construction of ships and other sea-going vessels on a more substantial principle, and in a manner to economize stowage-space, as well as cost, by dispensing with the heavy knees usually employed in ship-building, as well as the necessity of calking and recalking; and it consists in constructing the hull of the vessel of a series of segmental planks, bolted or spiked together by bolts or nails, arranged longitudinally to the hull, in the manner hereinafter more particularly described, and whereby the planking of the hull, as at present practiced, is entirely dispensed with.

I will now describe my invention more particularly by referring to the accompanying drawing, in which—

Figure 1 represents a perspective view of the hull of a vessel constructed according to my invention. Fig. 2 is a transverse section of the same, taken through the center of one of the bulk-heads.

The same letters of reference appearing on both figures indicate like parts.

In constructing a vessel on this plan I prefer to commence about midships, constructing or shaping the segments A of plank, to give the desired profile at that portion. In this central rib I insert bolts B, pointing toward the bow and stern alternately, to receive and pass through the next adjacent rib fore and aft, similar bolts having been previously inserted in said secondary ribs or segments, with countersunk heads, to pass through and secure the next adjacent succeeding row of segments. These bolts may be of a length to secure only two rows of such segments together, or they may extend through three or more, and others be inserted at intervals, to form a continuous building up and binding together, until the two extremities of the hull are reached, when the protruding bolts pass out through a binding-plate or gunwale, C, to secure all together, and, along the midship portion of the hull, bolts D have their heads inserted at suitable intervals between two ribs or segments, so as to extend upward and through the gunwale C, to secure the latter along the side of the hull. At intervals crosswise of the hull are erected one, two, or more bulk-heads, E, dividing the former into several air and water tight compartments. These bulk-heads E, as also the decks G, and, in large vessels, longitudinal dividing-walls I, are built up of plank bolted together, with their joints broken, similar to a wall of brick-work, and at intervals are tied in and secured by bolts to the hull, thus increasing the strength of the latter.

The hull may also be continued over the deck in an arched form, and provided with lights and port-holes, as represented by dotted lines in Fig. 2, and have a system of ventilating-pipes for conveying fresh air to all the compartments.

In case of fire in any part of the vessel it may be confined in a few moments to the compartment in which it originated by closing up such compartment and cutting off all ventilation therefrom, when it will be immediately suffocated, and that without inconvenience to any other part of the vessel or to passengers therein.

In order to give additional strength to a vessel constructed on this plan, it may be lined with a series of segments, H, arranged transversely to those forming the hull, and bolted together in like manner and to the hull. This lining may be either in solid contact with the hull, or, for war-ships, may have an intervening stratum of cotton or felt, to form a cushion to counteract the effect of heavy ordnance. In this mode of construction the entire hull is of an arch form, and every block of timber in it partakes of the form of a key-stone, being more or less tapering inward, both on its sides and ends, so that it will be found almost impossible to stave it in, either by collision or by running onto or against reefs or rocks.

I am aware that a mode of constructing vessels of timbers arranged horizontally and longitudinally of the hull, one above another, and bolted or spiked together in successive courses, is not new; but this I consider essentially different from my invention, and therefore do not claim such construction.

What is here claimed as new, and desired to be secured by Letters Patent, is—

1. The method of constructing ships and other vessels by bolting together segments of plank of tapering or wedge shape, and arranged transversely of the hull, so as to give an arch character to the structure, substantially as shown and described.

2. In combination with the hull of a vessel constructed of segments A, bolted together as described, the lining H, arranged to cross the joints of the former at about right angles thereto, substantially as specified.

3. The metallic plate or gunwale C, in combination with the segments A and bolts B and D, all arranged as shown and described, for the purpose specified.

ANDREW MUHLEISEN.

Witnesses:
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