

T. M. REES.
SHIP CONSTRUCTION.
APPLICATION FILED DEC. 19, 1908.

935,817.

Patented Oct. 5, 1909.

2 SHEETS—SHEET 1.

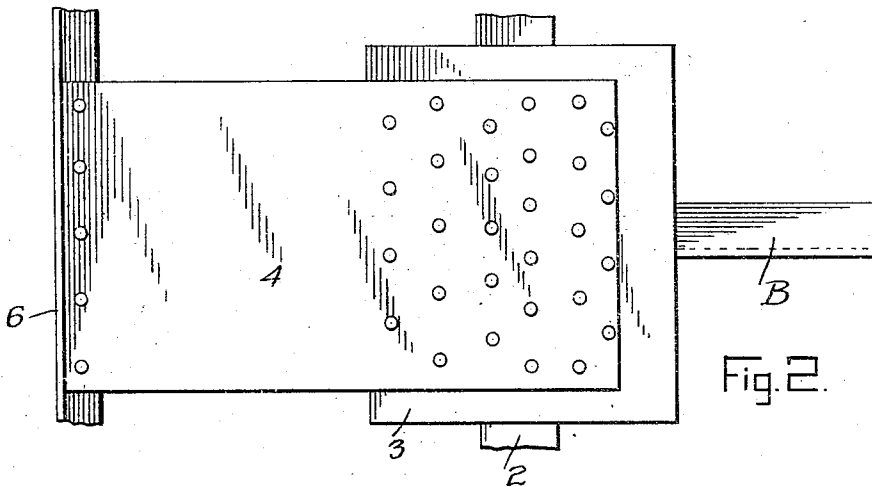


Fig. 2.

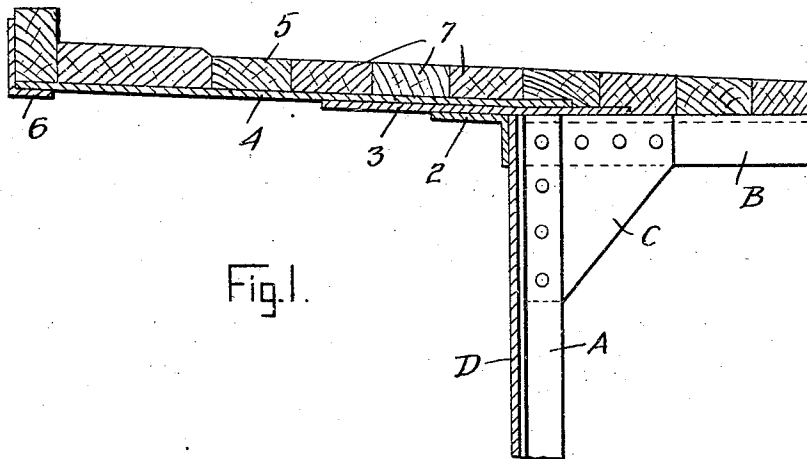


Fig. 1.

Witnesses

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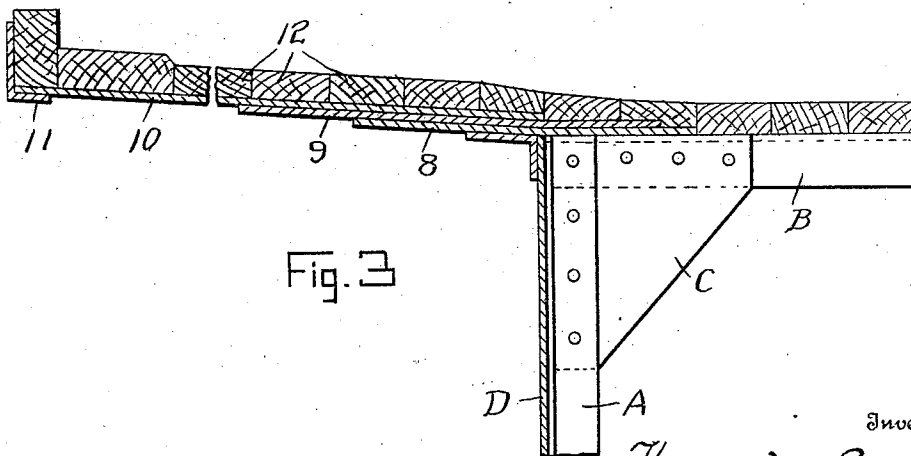
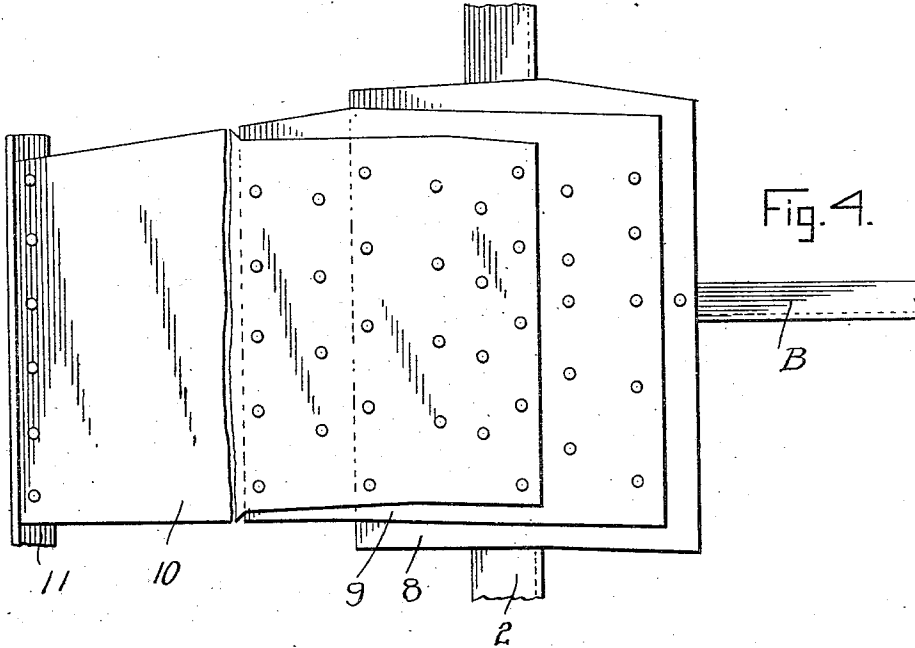
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2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS M. REES, OF PITTSBURG, PENNSYLVANIA.

SHIP CONSTRUCTION.

935,817.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, THOMAS M. REES, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Ship Construction, of which the following is a specification.

My invention relates to boat or ship construction and particularly to that portion of a ship, steamer, flat boat or like floating structure, known as the "guard" this being the overhanging portion of the deck, extending around, and usually supported by brackets on the hull. Heretofore, this portion of said structure has been made by attaching a knee or angled beam of channel iron to the hull of the boat, upon which the deck planking, or other supporting planking has been borne. To the "outrigger" so constructed, has been riveted a flanged bracket plate. There are a number of disadvantages in this construction. It could overhang the hull but a few feet, unless it was supported from above by chains or other means, these being of course very much in the way, and the brackets or other supports, extending as they do downward, near to the surface of the water, especially when the boat is deeply laden, are liable to catch floating debris, or ice.

The object of my invention is to do away with this relatively weak construction, to provide a guard which will protect in case of collision and one which may extend out from, or overhang the hull a much greater distance, and eliminate the necessity of brackets, beams or other supports extending downward to or near the water level, and to do away with interior supports, which obstructed the space to be used for freight or other purposes.

My construction provides an overhang which extends out practically in a horizontal plane, and to a distance three or four times greater than before possible.

Broadly, my invention consists of using a series of overlapping shear plates, these plates being placed one above the other, and one extending out beyond the other, the plates being given a sufficient inboard support to carry the load.

In the drawings, Figure I is a section of part of the hull frame of a boat, and a guard

supported by two plates. Fig. II is a plan view of the same, the deck planking being removed, and the various supporting plates being broken away. Fig. III is a section of a part of a hull frame of a boat, showing a guard supported by three plates. Fig. IV is a plan view thereof, the planking being removed.

Like characters designate like parts.

Referring to Figs. I and II, A designates one of the hull frames, B one of the cross beams, C a gusset plate, and D, the hull plate, all of any usual or ordinary construction.

An angle iron 2, is riveted, or otherwise suitably attached to the hull plate D, with one of the flanges projecting out from the hull. To this is riveted, or otherwise suitably attached the lowest supporting plate 3, which projects inboard a distance depending upon the weight the guard is designed to support, and the depth or extent of the overhang. I have found in practice, that for a guard with an overhang of three feet, six inches, where two supporting plates are to be used, that the plate 3, may well extend inboard, beyond the hull plating about eight inches. The plate 3, is riveted to the flange of the angle iron beam, B. While I do not wish to be limited to these measurements, I have also found in practice, that the plate 3 need only extend out-board a relatively small proportion of the width of the guard, namely, about one-third of said width. Upon the plate 3, is riveted a second supporting plate 4. This plate also projects inboard, but not so far as plate 3. In Figs. I and II, this plate is shown as the immediate support for the deck planking 5, and extends out to the edge of the guard. An angle iron 6, is riveted to the plate 4, and forms an upstanding wall at the edge thereof. Deck planking 7, is attached to the supporting plates, in any usual or desired way.

While for guards having a relatively small overhang, or carrying a light load, the construction shown in Figs. I and II is sufficient, yet for guards having a greater overhang—as for instance, an overhang of over five feet—I have found in practice, that an additional supporting plate is advisable. This makes a much stronger construction, yet does not increase the thickness, by more than the thickness of the additional plate,

i. e., about three-eighths of an inch. This construction is shown in Figs. III and IV. Therein, 8 designates the lowest supporting plate, and 9, a second or intermediate plate, which extends inboard nearly as much as plate 8, but projects out, beyond said plate. In Figs. II and III, an extent equal to about one-third the distance between the edge of the plate 8, and the plane of the hull. The plates 8 and 9, are riveted to each other, and to the third supporting plate 10, which extends out, to the edge of the guard, and is there provided with the angle iron 11. The deck planking is designated by 12. The additional supporting plate increases the carrying capacity, and while I have shown two and three supporting plates, I do not wish to be limited to this number, as I may use as many thicknesses of plates, as will suffice to support the given load, and the special circumstances of any case. The wooden deck planks, while usually advisable, are not necessary to the use of my invention, and may be dispensed with.

It will be noticed that the supporting plates 3, 4, 8, 9, and 10 are not truly horizontal, but incline slightly upward, as they extend outward from the hull. With the construction described, having a shore plate attached to the angle iron 2, the frames of the boat form a plank sheer to support the guard. The plates are riveted together so as to make the guard water tight, and provide a strong anchorage for the support of any weight placed on the guard.

The advantages in my invention reside in the strength and lightness of the structure, in the greater extent of over-hang it permits, in the very small thickness of the guard, and the fact that there are no bracket—like supporting beams or irons,—extending downward toward the water, and liable to engage with floating objects.

Having described my invention, what I claim, is,

1. In a floating structure, the combination with hull frames and transverse beams, of a guard support overhanging the hull frames and formed of a series of plates riveted to each other, the lower of said plates projecting inward beyond the plane of the hull, and being attached to the said transverse beams.

2. In a floating structure, the combination with hull frames and transverse beams, of a guard support over hanging the hull frames, and formed of a series of over-lapping plates riveted to each other, the lower of said plates projecting inward beyond the plane of the hull, and being attached to the said transverse beams, each plate projecting outward beyond the plate next below it.

3. In a floating structure, the combination with hull frames, transverse beams, and an outwardly projecting supporting iron, of a guard support over-hanging the hull frames, and formed of a series of over-lapping plates riveted to each other, the lower of said plates projecting inward beyond the plane of the hull, and being attached to the supporting iron and said transverse beams, each plate projecting beyond the plate next below it.

4. In a floating structure, the combination with hull frames, and a supporting iron, of a plate attached to the supporting iron, extending inboard thereof, and projecting out beyond the same, a guard plate attached to said plate, the said hull frames forming a plank sheer for the support of said guard plate.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS M. REES.

Witnesses:

WILLIAM S. ODELL,

T. S. GODDUS.