

# IRON SHIPS.

Rec 5/1/68

No. 2657 Survey held at Hartlepool Date 20<sup>th</sup> April 1866 to 24<sup>th</sup> April 1866  
 on the Screw Steamer "Marmora" Master A. Murrell  
 Tonnage under tonnage deck 604.45 Built at Hartlepool When built 1865 Launched 26<sup>th</sup> March  
 Ditto of Deck House or spar deck 37.89 By whom built Denton Gray & Co. Owners Denton Gray & Co.  
 Ditto of engine room 30.51  
 Total Register tonnage 649.20 Port belonging to Hartlepool Destined Voyage Mediterranean  
 Gross Tonnage 954.70  
 Surveyed while Building, Afloat, or in Dry Dock Specially Surveyed while building

Length aloft		Extreme Breadth		Depth from top of Upper Deck Beam to top of Floor		Power of Engines		No. of Decks	
Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Horse.	
21	9	20	6	14	6	90		3	

(Dimensions of Ship per Register, length 21-2 breadth 20-2 depth 14-2)

	Inches in Ship.	16ths. required per Rule.		Inches in Ship.	16ths. required per Rule.
Keel, if bar iron, depth and thickness	7 x 2 1/2	7 x 2 1/2	Plates in Garboard Strakes, breadth and thickness	36	10/16
" if plate iron, breadth and thickness	7 x 2 1/2	7 x 2 1/2	Ditto from Garboard to upper part of Bilges..	9/16	9/16
tem, if bar iron, moulding and thickness	7 x 2 1/2	7 x 2 1/2	" from upper part of Bilge to a perpendicular height from upper side of Keel of 3/4ths the entire depth of Hold	8/16	8/16
" if plate iron, breadth and thickness	8 1/4 x 4 1/2	7 x 3	" from 3/4ths depth of Hold to lower edge of Sheerstrake	8/16	7/16
tern-post, if bar iron, moulding and thickness	21	21	" Sheerstrake, breadth and thickness	36	9/16
" " if plate iron, breadth and thickness			Butt Straps to outside plating, breadth and thickness	9 1/2 x 6 1/2	8 1/4 x 7 1/2
Distance of Frames from moulding edge to moulding edge, all fore and aft			Gunwale Plate or Stringer on ends of Upper Deck Beams, breadth and thickness	34	9/16
Frames, Size of Angle Iron, single or double	3 x 3	3 x 3	Angle Iron on ditto	4 1/2 x 4	7/16
" " Reversed Iron, if to every frame or every frame	3 x 2 1/2	3 x 2 1/2	Stringer or Tie Plates fore and aft, on Upper Deck Beams, outside Hatchways	10 1/2	8/16
Floors, depth and thickness of Floor Plate at mid line	21 x 8/16	21 x 8/16	Diagonal Tie Plates on ditto	10 1/2	8/16
Ditto ditto at Bilge Keelson	10 x 8/16	10 x 8/16	Planksheer, materials and scantlings		
Size of Reversed Angle Iron, and No. at top of Floor Plate	3 x 2 1/2	3 x 2 1/2	Waterway ditto	3 x 11	Plank on edge
Plate, Tee, or Bulb Iron	7 x 7/16	7 x 7/16	Flat of Upper Deck, thickness and material	3 1/2	4 P.
" double or single Angle Iron, on edge	2 3/4 x 2 3/4	5/16	" how fastened to Beams	9/16	10 P.
" average space between	3 ft. 6 in.	3 ft. 6 in.	Ceiling betwixt Decks and in Hold, thickness and material	2 1/2	10 P.
Hold, or Lower Deck (No. 1)	7 x 7/16	7 x 7/16	Clamps or Spirketting ditto		
double Angle, Tee, Plate, or Bulb Iron	3 x 2 1/2	3 x 2 1/2	Stringer Plates on ends of Hold or Lower Deck Beams, breadth and thickness	24	9/16
" double or single Angle Iron on edge	7 ft. when practicable	7 ft.	Stringer or Tie Plates fore and aft outside Hatchways, on Hold or Lower Deck Beams	3 x 2 1/2	6/16
" average space between			Stringers in Hold	5	4 9/16
Paddle, sided and moulded, thickness of Plate size of Angle Iron			Flat of Lower Deck, thickness and material	5 1/2	5 1/2
Engine " " " "			Main piece of Rudder, diameter at head	3	3
Keelson, single or double plate, box, or intercostal	24 x 9/16	14 x 12/16	" " " at heel		
Size of Plates	14 x 12/16	14 x 12/16	(Can the Rudder be unshipped afloat)		
Size of Angle Irons	8 1/2 x 4 1/2	8 1/2 x 4 1/2	Bulkheads, No. 4 Thickness of	6/16	6/16
Side, single or double, plate, box, or intercostal	10/16	3 x 4 1/4	" Height up		
Bilge (No. one) at each Bilge,	5 1/2 x 8 1/2	10/16	" how secured to the sides of the ship		
single, or double, plate, or box			" size of vertical angle irons and their distance apart		
Planks, material Plate or, if none, in what manner compensated for.					
at heads, and Hawse Timbers					
Frames extend in one length from	Keel	to gunwale			
reverse angle irons on the floors extend in one length across the middle line from	bilge	to bilge			
" " on the frames		from bilge			
Keelson, how are the various lengths of plates or angle irons connected?					
Plates, Garboard, double or					
" Edges from Garboards to upper part of bilge, worked clencher, double or single rivetted; with rivets (3/4 in.) diameter, averaging (2 3/4 ins.) apart.					
" Butts from Keel to turn of bilge, worked carvel with butt straps (9 x 9/16) thick, double or single rivetted; with rivets (3/4 in.) diameter, averaging (2 3/4 ins.) apart.					
" Edges from bilge to sheerstrake, worked carvel with a lining piece ( ) thick, or clencher, double or single rivetted; with rivets (3/4 in.) diameter, averaging (2 3/4 in.) apart.					
" Edges of Sheerstrake, double or single rivetted? At upper edge	Double	At lower edge	Double		
" Butts from bilge to planksheers, worked carvel with butt straps (9 x 9/16) thick, double or single rivetted; with rivets (3/4 in.) diameter, averaging (2 3/4 ins.) apart. Breadth of laps in double rivetting (4 1/2) Breadth of laps in single rivetting (none)					
Butt Straps of Keelsons, Stringer and Tie Plates, double or single rivetted?	Double				
Planksheer, how secured to the plating of the sides		Explain by sketch			
Waterway " " planksheer and to the Beams		if necessary.			
Deck Beams, how secured to the side?					
Hold or Lower Deck ditto					
Paddle " "					
What description of Iron is used for the Frames, Beams, Keelsons, Tie and Stringer Plates, Outside Plating, &c.?					
Manufacturer's name or trade mark					
We certify that the above is a correct description of the several particulars therein given.					
Builder's Signature		Surveyor's Signature			

IRON 442 0179

See Secretary's Letter dated 15th May 1866 + 25th Oct. 1864, Sister Ship. No 2616. excepting water ballast tanks commenced by James W. H. Gray & Co. Builders of the ship.

6210 Iron

**Workmanship.** Are the lands or laps of the clenchwork in all cases in breadth at least five and a half times the diameter of the rivets in double rivetted edges and butts, and at least three and a quarter times the diameter of the rivets where single rivetting is admitted? Yes  
Do the edges of the carvel work and of the butts lay close together throughout their length without requiring any making good of deficiencies? They do  
Do the fillings between the ribs and plates fill in solid with single pieces? or are they in short lengths of various thicknesses? Solid in the length  
Do the holes for rivetting plate to frames, butt straps, or plate to plate, &c., conform well to each other? Yes and are the rivet holes well and sufficiently countersunk in the outer plate? All through  
Are there any rivets which either break into or have been put through the seams or butts of the plating? A few in butts

Her Masts, Bowsprit, Yards, &c., are in Good Oregon & R. Pine condition, and sufficient in size and length. (If they are of Iron or Steel give the Scantlings of Plating, Angle Irons, &c., and further explain by a Sketch showing how the lower Masts and Bowsprit are constructed, showing the number of Plates and Angle Irons, mode of rivetting, quality of Materials, and if stamped with Maker's name.

She has SAILS.	CABLES, &c.	Fathoms.	Inches.	Test as per Certificate.	In. req'd per Rule.	Test req'd per Rule.	ANCHORS, &c.	N <sup>o</sup> .	Weight. Ex. Stock.	Test as per Certificate.	Weight req'd per Rule.	Test req'd per Rule.
Fore Sails,	Chain .....	270	1 1/2	40 1/2	1 1/2	40 1/2	Rodgers	3	21-0-0	21-12-20	21-0-0	21 6/10
Fore Top Sails,							Bowers	3	21-0-0	21-12-20	21-0-0	21 6/10
Fore Topmast Stay Sails	Stream Cable	90	1 5/16		1 5/16				10-1-0	10-4-14	17-3-12	18 7/10
Main Sails,	Hawser .....	190	7				Stream	1	8-3-17			
Main Top Sails,	Towlines .....	190	16				Kedges	2	4-2-10			
and	Warp .....	190	5						2-1-0			
	All of <u>Good</u> quality.											
Her Standing and Running Riggings <u>Wire &amp; Hemp</u> sufficient in size and <u>Good</u> in quality.												
She has <u>Two life</u> Long Boat and <u>Butter Gig &amp; Dingy</u>												
The present state of the Windlass is <u>Good</u> Capstan <u>Good</u> and Rudder <u>Good</u> Pumps <u>2 of 7 in Iron Good</u>												

Order for Special Survey No. 250 DATES of Surveys held while building  
Date 30th May 1866  
Order for Ordinary Survey No. \_\_\_\_\_ as per Section 18.  
Date \_\_\_\_\_  
1st. On the several parts of the frame, when in place, and before the plating was wrought  
2nd. On the plating during the progress of rivetting  
3rd. When the beams were in and fastened, and before the decks were laid  
4th. When the ship was complete, and before the plating was finally coated  
5th. After the ship was launched  
Special Survey  
seen twice  
each week  
during building

State if she has a Spar Deck Yes Poop or Forecastle  
**General Remarks,** Spar Deck frames to the top height, reverse bars on alternate frames  
Side plating 6/16th Sheerstrake 7/16th Double rivetted at edges & butts  
Beams built plates 6 x 6/16 double angle Iron on top edge 2 1/4 x 2 1/4 x 5/16, Stringers on  
De. 2 1/4 x 7/16 Lie plates 10 1/2 x 7/16 Diagonal plates 10 1/2 x 6/16 four sets Waterways  
11 x 0 1/2 Pitch Pine, Plank of Deck 3 inch Y. Pine fastened with 9/16 nut bolts  
Waterballast tanks fitted the whole length of fore & after holds  
Two girders fitted on each side between keelson & bulges 3/8 plates with angle  
Iron top & bottom edges 3 x 3 x 7/16, top of tank 3/8 plate rivetted to girders  
middle line keelson & to angle Iron inside reverse frames 6 x 3 x 7/16 between  
these bars & shell plating this filled in with Pine & Oak.  
Length being over 14 Depths & 7 Breadths Main Sheerstrake doubled  
for threefourths the vessel length with plates 27 x 0 1/16, gunwale  
stringers increased in width & thickness, built plates fitted between  
bulge keelson angle Irons, all edges of shell plating double rivetted.  
J. P. Denton Gray & Co.  
E. Alexander

In what manner are the surfaces preserved from oxidation? Inside Cemented with Portland Cement & the  
Ditto ditto Outside upper parts of bulges, other parts with  
three coats of paint. Genl Committee  
I am of opinion this Vessel should be Classed As a 1st grade  
The amount of the Fee .....£ 3 : 0 : 0 is received by me,  
Special .....£ 47 : 14 : 0  
Certificate (if required) .....£ : :  
Committee's Minute 8th May 1868  
14 May 1868  
Character assigned B 1

It is respectfully to refer the Committee to  
Mr. Gladstone's Letter appended to the Report on this  
Spar decked Steamer, which states "he is of opinion  
she is worthy the favorable consideration of the  
Committee for the 1st grade". and I concur  
in his recommendation, as the tonnage is so slight  
in excess. By less than five tons, and the plating  
is fully up to the larger tonnage. It will also  
be seen she has Tank or double Bottom, and  
about the Engine Room Bulkheads. On May 6/6