

# IRON SHIPS.

Recd 22/7/69  
*[Signature]*

No. 10998 Survey held at Newcastle Date 25<sup>th</sup> August 1868 to 28<sup>th</sup> June 1869  
 on the Iron Screw Steamer "China" Master Milne  
 Tonnage under tonnage deck 1441.15 Built at Newcastle When built 1869 Launched 13<sup>th</sup> May  
 Ditto of quarter deck 57.80 By whom built Messrs Richardson & Co Owners Messrs Apcar & Co  
 Ditto of poop, forecabin, or other erections on upper deck 479.66 Port belonging to London Destined Voyage Calcutta  
 Ditto of spar deck 1471.43 If surveyed while Building, Afloat, or in Dry Dock while building  
 Ditto of engine room 991.74  
 Gross tonnage, less crew space 27.52  
 Total Register tonnage, as set on beam

PLANS CASE

Length aloft	Extreme Breadth	Depth from top of Upper Deck Beam to top of Floor	Power of Engines	N <sup>o</sup> . of Decks																																																																																																																
200 0	35 0	20 0	280	two																																																																																																																
<i>(Dimensions of Ship per Register, length 290 breadth 35.2 depth 20.9)</i>																																																																																																																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 10%;">Inches in Ship</th> <th style="width: 10%;">Inches required per Rule for 1400 tons Scale</th> <th style="width: 10%;">Inches in Ship</th> <th style="width: 10%;">Inches required per Rule for 1400 tons Scale</th> <th style="width: 10%;">Inches in Ship</th> <th style="width: 10%;">Inches required per Rule for 1400 tons Scale</th> </tr> </thead> <tbody> <tr> <td>Keel, if bar iron, depth and thickness</td> <td>38 x 1 1/6</td> <td>38 x 1 1/6</td> <td>9 x 1 1/2</td> <td>9 x 1 1/2</td> <td>9 x 1 1/2</td> <td>9 x 1 1/2</td> </tr> <tr> <td>Stem, if bar iron, moulding and thickness</td> <td>9 x 3</td> <td>9 x 3</td> <td>9 x 6</td> <td>9 x 6</td> <td>9 x 6</td> <td>9 x 6</td> </tr> <tr> <td>tern-post, if bar iron, moulding and thickness</td> <td>9 x 6</td> <td>9 x 6</td> <td>21</td> <td>21</td> <td>21</td> <td>21</td> </tr> <tr> <td>Distance of Frames from moulding edge to moulding edge, all fore and aft</td> <td>21</td> <td>21</td> <td>5 3/2</td> <td>5 3/2</td> <td>5 3/2</td> <td>5 3/2</td> </tr> <tr> <td>Frames, Size of Angle Iron, single or double</td> <td>5 3/2</td> <td>5 3/2</td> <td>3 1/2</td> <td>3 1/2</td> <td>3 1/2</td> <td>3 1/2</td> </tr> <tr> <td>Floors, depth and thickness of Floor Plate at mid line</td> <td>23 1/4 x 11 x 9</td> <td>23 1/4 x 11 x 9</td> <td>9</td> <td>9</td> <td>9</td> <td>9</td> </tr> <tr> <td>Beams, Deck (N<sup>o</sup>. 19) double Angle Iron, Plate, Tee, or Bulb Iron</td> <td>9 x 9/16</td> <td>9 x 9/16</td> <td>3 1/4</td> <td>3 1/4</td> <td>3 1/4</td> <td>3 1/4</td> </tr> <tr> <td>Keelson, angle or double plate, box, or intercostal</td> <td>38 x 1/2</td> <td>38 x 1/2</td> <td>18 x 1/2</td> <td>18 x 1/2</td> <td>18 x 1/2</td> <td>18 x 1/2</td> </tr> <tr> <td>Side, single or double, plate, box, or intercostal</td> <td>22 x 1/16</td> <td>22 x 1/16</td> <td>5 1/2</td> <td>5 1/2</td> <td>5 1/2</td> <td>5 1/2</td> </tr> <tr> <td>Bilge (No. one) at each Bilge, single, or double, plate, or box</td> <td>5 1/2</td> <td>5 1/2</td> <td>9</td> <td>9</td> <td>9</td> <td>9</td> </tr> <tr> <td>Planksheer, how secured to the plating of the sides</td> <td>10 x 12</td> <td>10 x 12</td> <td>3 1/4</td> <td>3 1/4</td> <td>3 1/4</td> <td>3 1/4</td> </tr> <tr> <td>Waterway, how secured to the plating of the sides</td> <td>10 x 12</td> <td>10 x 12</td> <td>3 1/4</td> <td>3 1/4</td> <td>3 1/4</td> <td>3 1/4</td> </tr> <tr> <td>Deck Beams, how secured to the side</td> <td>10 x 12</td> <td>10 x 12</td> <td>3 1/4</td> <td>3 1/4</td> <td>3 1/4</td> <td>3 1/4</td> </tr> <tr> <td>Hold or Lower Deck ditto</td> <td>10 x 12</td> <td>10 x 12</td> <td>3 1/4</td> <td>3 1/4</td> <td>3 1/4</td> <td>3 1/4</td> </tr> <tr> <td>Paddle, how secured to the plating of the sides</td> <td>10 x 12</td> <td>10 x 12</td> <td>3 1/4</td> <td>3 1/4</td> <td>3 1/4</td> <td>3 1/4</td> </tr> </tbody> </table>						Inches in Ship	Inches required per Rule for 1400 tons Scale	Inches in Ship	Inches required per Rule for 1400 tons Scale	Inches in Ship	Inches required per Rule for 1400 tons Scale	Keel, if bar iron, depth and thickness	38 x 1 1/6	38 x 1 1/6	9 x 1 1/2	Stem, if bar iron, moulding and thickness	9 x 3	9 x 3	9 x 6	9 x 6	9 x 6	9 x 6	tern-post, if bar iron, moulding and thickness	9 x 6	9 x 6	21	21	21	21	Distance of Frames from moulding edge to moulding edge, all fore and aft	21	21	5 3/2	5 3/2	5 3/2	5 3/2	Frames, Size of Angle Iron, single or double	5 3/2	5 3/2	3 1/2	3 1/2	3 1/2	3 1/2	Floors, depth and thickness of Floor Plate at mid line	23 1/4 x 11 x 9	23 1/4 x 11 x 9	9	9	9	9	Beams, Deck (N <sup>o</sup> . 19) double Angle Iron, Plate, Tee, or Bulb Iron	9 x 9/16	9 x 9/16	3 1/4	3 1/4	3 1/4	3 1/4	Keelson, angle or double plate, box, or intercostal	38 x 1/2	38 x 1/2	18 x 1/2	18 x 1/2	18 x 1/2	18 x 1/2	Side, single or double, plate, box, or intercostal	22 x 1/16	22 x 1/16	5 1/2	5 1/2	5 1/2	5 1/2	Bilge (No. one) at each Bilge, single, or double, plate, or box	5 1/2	5 1/2	9	9	9	9	Planksheer, how secured to the plating of the sides	10 x 12	10 x 12	3 1/4	3 1/4	3 1/4	3 1/4	Waterway, how secured to the plating of the sides	10 x 12	10 x 12	3 1/4	3 1/4	3 1/4	3 1/4	Deck Beams, how secured to the side	10 x 12	10 x 12	3 1/4	3 1/4	3 1/4	3 1/4	Hold or Lower Deck ditto	10 x 12	10 x 12	3 1/4	3 1/4	3 1/4	3 1/4	Paddle, how secured to the plating of the sides	10 x 12	10 x 12	3 1/4	3 1/4	3 1/4	3 1/4			
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Plates in Garboard Strakes, breadth and thickness 36  
 Ditto from Garboard to upper part of Bilges 12 1/6  
 from upper part of Bilge to a perpendicular height from upper side of Keel of 3/4ths the entire depth of Hold 11 1/6  
 from 3/4ths depth of Hold to lower edge of Sheerstrake 10 1/6  
 Sheerstrake, breadth and thickness 36  
 Double plate for 3/4 length 10 1/6  
 Butt Straps to outside plating, breadth and thickness 9 3/4  
 Gunwale Plate or Stringer on ends of Upper Deck Beams, breadth and thickness 40  
 Angle Iron on ditto 5 1/2  
 Stringer or Tie Plates fore and aft, on Upper Deck Beams, outside Hatchways 13  
 Diagonal Tie Plates on ditto 13  
 Planksheer, materials and scantlings see sketch  
 Waterway ditto ditto see sketch  
 Flat of Upper Deck, thickness and material 4 1/2 Pine  
 how fastened to Beams by screw bolts and nuts below  
 Ceiling betwixt Decks and in Hold, thickness and material 2 1/2 Baltic pine plating  
 Clamps or Spiketting ditto see sketch  
 Stringer Plates on ends of Hold or Lower Deck Beams, breadth and thickness 30  
 Stringer or Tie Plates fore and aft outside Hatchways, on Hold or Lower Deck Beams 13  
 Stringers in Hold see sketch  
 Flat of Lower Deck, thickness and material 3 1/4 Pine  
 Main piece of Rudder, diameter at head 6  
 at heel 3 1/4  
 Bulkheads, N<sup>o</sup>. 4 Thickness of 1 1/16  
 Height up to upper deck two to main deck; 2 after one above  
 how secured to the sides of the ship rivetted to double frames  
 size of vertical angle irons 3 1/2 x 3 1/2 and their distance apart 30

Frames extend in one length from keel to gunwale rivetted through plates with (7/8 in.) rivets, about (6 1/2) apart.  
 Reverse angle irons on the floors extend in one length from the middle line to main and upper deck alternately  
 on the frames from the middle line to main and upper deck alternately  
 Reason, how are the various lengths of plates or angle irons connected? by double rivetted butt straps  
 Plates, Garboard, double rivetted to keel, double at upper edge, with rivets (1/2 in.) diameter, averaging (4 1/4 in.) apart.  
 Edges from Garboards to upper part of bilge, worked clencher, double or single rivetted; with rivets (7/8 in.) diameter, averaging (3 1/4 in.) apart.  
 Butts from Keel to turn of bilge, worked carvel with butt straps (12 x 13 / 16) thick, double or single rivetted; with rivets (7/8 in.) diameter, averaging (3 1/4 in.) apart. Do the butt straps lap over and rivet through the lands of the strake below? no  
 Edges from bilge to sheerstrake, worked carvel with a lining piece ( ) thick, or clencher, double or single rivetted; with rivets (7/8 in.) diameter, averaging (3 1/4 in.) apart. Do the butt straps lap over and rivet through the lands of the strake below? no  
 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 (10 x 12 / 10) thick, double or single rivetted; with rivets (7/8 in.) diameter, averaging (3 1/4 in.) apart. Breadth of laps in double rivetting (5 1/2) Breadth of laps in single rivetting (3 1/2)  
 Butt Straps of Keelsons, Stringer and Tie Plates, double or single rivetted? double rivetted  
 Planksheer, how secured to the plating of the sides by bolts through the sheerstrakes and deck  
 Waterway, how secured to the plating of the sides Stringers, the former clenched on waterway  
 Deck Beams, how secured to the side? ends turned down and rivetted to frames  
 Hold or Lower Deck ditto ends turned down and rivetted to frames  
 Paddle, how secured to the plating of the sides see sketch  
 No. of breasthooks 4 crutches 4  
 What description of Iron is used for the Frames, Beams, Keelsons, Tie and Stringer Plates, Outside Plating, &c.? see sketch  
 Manufacturer's name or trade mark see sketch

We certify that the above is a correct description of the several particulars therein given.  
 Builder's Signature William Richardson & Co Surveyor's Signature A. P. Reed  
 Lloyd's Register

4218 Len

**Workmanship.** Are the lands or laps of the clenohwork 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 fay close together throughout their length without requiring any making good of deficiencies? Yes

Do the fillings between the ribs and plates fill in solid with single pieces? or are they in short lengths of various thicknesses? solid single pieces

Do the holes for rivetting plate to frames, butt straps, or plate to plate, &c., conform well to each other? fairly so and are the rivet holes well and sufficiently countersunk in the outer plate? Yes

Are there any rivets which either break into or have been put through the seams or butts of the plating? a few

Her Masts, Bowsprit, Yards, &c., are in good 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.

*Tested at the Vetherton P. H. M. R. Reade Sept.*

N <sup>o</sup> .	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.	W'ght req'd per Rule.	Test req'd per Rule.
	Fore Sails,	Chain .....	300	1 1/4	57.400	1 1/4	57 2/3	Bowers .....	3	28.0.4	27.3.12	27.3.0	26.18.20
	Fore Top Sails,	<u>Iron</u>								28.0.0	27.2.20	27.3.0	26.18.3.0
	Fore Topmast Stay Sails	<u>Hemp</u> Stream Cable	40	1		1				24.2.21	24.9.3.0	23.2.10	23.11.3.14
	Main Sails,	Hawser .....	90	10		10		with stock					
	Main Top Sails,	Towlines .....	90	8		6		Stream	1	10.1.24		11.0.0	
		Warp .....	90	6									
		All of <u>good</u> quality.	90	5				with stock	2	6.2.14		5.2.0	
								Kedges	2	2.3.20		2.3.0	

Her Standing and Running Rigging hemp sufficient in size and good in quality.

She has two life Long Boat and two others

The present state of the Windlass is good Capstan good and Rudder good Pumps 4 and an engine

Order for Special Survey DATES of 1st. On the several parts of the frame, when in place, and before the plating was wrought built

No. 674 Surveys held 2nd. On the plating during the progress of rivetting under

Date 18 Sept 1868 while building 3rd. When the beams were in and fastened, and before the decks were laid Special

Order for Ordinary Survey as per 4th. When the ship was complete, and before the plating was finally coated Survey

No. \_\_\_\_\_ Section 18. 5th. After the ship was launched

Date \_\_\_\_\_

State if she has a Spar Deck no Poop no or Forecastle no

**General Remarks,**

This is a sister vessel to the "Hindustan," report No 10820, and is precisely similar in all respects, including the water ballast tanks before and abaft engine room, and the iron fore and main masts, of which a sketch accompanied the report alluded to.

It will be observed that the stream anchor is a little under the prescribed weight, which circumstance, owing to my absence in London, was not discovered until after the vessel's departure.

In what manner are the surfaces preserved from oxidation? Inside by Day's cement and Paint

Ditto ditto Outside by Red oxide and paint

I am of opinion this Vessel should be Classed B.I.

The amount of the Fee .....£ 5: .. is received by me,

Special .....£ 73: 11: ..

Certificate (if required) .....£ ..: ..

*R. P. Reeds*

Committee's Minute 23rd July 1869

Character assigned B

To: Messrs. W. Richardson & Co. Newcastle on Tyne

Sum of money this sum Steam built of Iron is eligible for Grant as recommended above

*W. J. Hall*

