

IRON SHIP.

No. 2452 Survey held at Refast Date, First Survey 26 Aug. 1875 Last Survey 19 June 1879
 On the Iron Sailing Ship Lord Cairns Master Thom

TONNAGE under Tonnage Deck 1266.66 ONE, OR TWO DECKED, THREE DECKED VESSEL.
 Ditto of Third, Spar, or Awning Deck. 44.71 SPAR, OR AWNING-DECKED VESSEL.
 Ditto of Poop, or Raised Qr. Dk. 18.21 HALF BREADTH (moulded) 18.0
 Ditto of Houses on Deck 42.92 DEPTH from upper part of Keel to top of Upper Deck Beams 24.5
 Gross Tonnage 1372.50 GIRTH of Half Midship Frame (as per Rule) 24.3
 Less Crew Space 61.24 1st NUMBER 49.8
 Less Engine Room 1211.23 1st NUMBER, if a THREE-DECKED VESSEL [deduct 7 feet]
 Register Tonnage as cut on Beam 1211.23 LENGTH 224.4
 2nd NUMBER 14904
 PROPORTIONS—Breadths to Length 6.2
 Depths to Length—Upper Deck to Keel 9.1
 Main Deck ditto 9.1

Built at Refast
 When built 4844 Launched 12 May
 By whom built Harland & Wolff
 Owners Thomas Dixon & Co.
 Port belonging to Refast
 Destined Voyage to Port of Calcutta
 If Surveyed while Building, Afloat, or in Dry Dock.

LENGTH on deck as per Rule 224 Feet. Inches. 5 BREADTH—Moulded 36 Feet. Inches. 0 DEPTH top of Floors to Upper Deck Beams 22 Feet. Inches. 6 Power of Engines 16 Horse. N° of Decks with flat laid Two
 Dimensions of Ship per Register, length 220.8 breadth, 36 depth, 22.25

	Inches in Ship.	Inches per Rule.	Inches in Ship.	Inches per Rule.	Inches in Ship.	Inches per Rule.	Inches in Ship.	Inches per Rule.
KEEL, depth and thickness	9 x 2 1/2	9 x 2 1/2	9 x 2 1/2	9 x 2 1/2	9 x 2 1/2	9 x 2 1/2	9 x 2 1/2	9 x 2 1/2
STEM, moulding and thickness	9 x 2 1/2	9 x 2 1/2	9 x 2 1/2	9 x 2 1/2	9 x 2 1/2	9 x 2 1/2	9 x 2 1/2	9 x 2 1/2
STERN-POST for Rudder do. do. for Propeller	8 1/2 x 2 1/4	8 1/2 x 2 1/4	8 1/2 x 2 1/4	8 1/2 x 2 1/4	8 1/2 x 2 1/4	8 1/2 x 2 1/4	8 1/2 x 2 1/4	8 1/2 x 2 1/4
Distance of Frames from moulding edge to moulding edge, all fore and aft	24	24	24	24	24	24	24	24
FRAMES, Angle Iron, for 2/3 length amidships	5 x 3	5 x 3	5 x 3	5 x 3	5 x 3	5 x 3	5 x 3	5 x 3
Do. for 1/3 at each end	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3
REVERSED FRAMES, Angle Iron	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships	24	24	24	24	24	24	24	24
thickness at the ends of vessel	12	12	12	12	12	12	12	12
depth at 1/4 the half-bdth. as per Rule	50	50	50	50	50	50	50	50
height extended at the Bilges	8 1/2 x 8	8 1/2 x 8	8 1/2 x 8	8 1/2 x 8	8 1/2 x 8	8 1/2 x 8	8 1/2 x 8	8 1/2 x 8
BEAMS, Upper, Spar, or Awning Deck	8 1/2 x 8	8 1/2 x 8	8 1/2 x 8	8 1/2 x 8	8 1/2 x 8	8 1/2 x 8	8 1/2 x 8	8 1/2 x 8
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	3 x 3	3 x 3	3 x 3	3 x 3	3 x 3	3 x 3	3 x 3	3 x 3
Single or double Angle Iron on Upper edge	4	4	4	4	4	4	4	4
Average space	4	4	4	4	4	4	4	4
BEAMS, Main, or Middle Deck	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3
Single, or double Angle Iron, on Upper Edge	4	4	4	4	4	4	4	4
Average space	4	4	4	4	4	4	4	4
BEAMS, Lower Deck, Hold, or Orlop	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3
Single or double Angle Iron on Upper Edge	4	4	4	4	4	4	4	4
Average space	4	4	4	4	4	4	4	4
KEELSONS Centre line, single or double plate, box, or Intercostal, Plates	11 x 12	11 x 12	11 x 12	11 x 12	11 x 12	11 x 12	11 x 12	11 x 12
" Rider Plate	11 x 12	11 x 12	11 x 12	11 x 12	11 x 12	11 x 12	11 x 12	11 x 12
" Bulb Plate to Intercostal Keelson	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4
" Angle Irons	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4
" Double Angle Iron Side Keelson	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4
" Side Intercostal Plate	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4
" do. Angle Irons	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4
" Attached to outside plating with angle iron	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4
BILGE Angle Irons	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4
" do. Bulb Iron	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4
" do. Intercostal plates riveted to plating for length	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4
BILGE STRINGER Angle Irons	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4
Intercostal plates riveted to plating for length	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4
SIDE STRINGER Angle Irons	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4	5 x 4
Transoms, material. Knight-heads. Hawse Timbers.	Non	Non	Non	Non	Non	Non	Non	Non
Windlass	Non	Non	Non	Non	Non	Non	Non	Non
Pall Bitt	Non	Non	Non	Non	Non	Non	Non	Non

The FRAMES extend in one length from hul to Cummer & Port alternat Riveted through plates with 7/8 in. Rivets, about 4 apart.
 The REVERSED ANGLE IRONS on floors and frames extend from about middle line to the upper deck through plate alternately
 KEELSONS. Are the various lengths of Plates and Angle Irons properly connected? Yes And butts properly shifted? Yes

PLATING. Garboard, double riveted to Keel, with rivets 1 1/8 in. diameter, averaging 5 ins. from centre to centre.
 Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets 7/8 in. diameter, averaging 3 1/2 ins. from centre to centre.
 Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 7/8 in. diameter averaging 3 1/2 ins. from centre to centre.
 Butts of 3 Strakes at Bilge for any length, treble riveted with Butt Straps 1/16 thicker than the plates they connect.
 Edges from bilge to Main Sheerstrake, worked clencher, double or single riveted; with rivets 7/8 in. diameter, averaging 3 1/2 ins. from cr. to cr.
 Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 7/8 in. diameter, averaging 3 1/2 ins. from cr. to cr.
 Edges of Main Sheerstrake, double or single riveted. Upper Sheerstrake, double or single riveted.
 Butts of Main Sheerstrake, treble riveted for any length amidships. Butts of Upper or Spar Sheerstrake, treble riveted any length amidships.
 Butts of Main Stringer Plate, treble riveted for any length amidships. Butts of Upper or Spar Stringer Plate, treble riveted for any length.
 Breadth of laps of plating in double riveting 5 1/2 Breadth of laps of plating in single riveting 3

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? As dupl. treble & double riveted
 Waterway, how secured to Beams As usual (Explain by Sketch, if necessary.)
 Beams of the various Decks, how secured to the sides? As usual No. of Breasthooks, 4 Crytches, 4
 What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? James Watson's "Loose Leaf"
 Manufacturer's name or trade mark, "Loose Leaf" F. H. Co. Loose Leaf
 The above is a correct description.
 Builder's Signature Harland & Wolff Surveyor's Signature, James M. Neil
 Surveyor to Lloyd's Register of British and Foreign Shipping.

Workmanship. Are the butts of plating planed or otherwise fitted? *Minimised*
Do the edges of the carvel work and of the butts lay close together throughout their length without requiring any making good of deficiencies? *Yes*
Are the fillings between the ribs and plates solid single pieces? *Yes*
Do the holes for riveting plate to frames, butt straps, or plate to plate, &c., conform well to each other? *Yes*
Are the rivet holes well and sufficiently countersunk in the plate and punched from the faying surfaces? *Yes*
Do any rivets break into or through the seams or butts of the plating? *No*

Masts, Bowsprit, Yards, &c., are *throughout* in *Good* condition, and sufficient in size and length. If of Iron or Steel give 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 riveting, quality of Materials, and if stamped with Maker's name.

State also Length and Diameter of Lower Masts and Bowsprit. *M. Masts as per accompanying approved tracing. Main Mast (lower) to mast in one 110' 2 1/2" at partner, 14' at head and 13' at head. Plates 1/2" 5/8" 1/4", Angles 3" x 3" 1/2". Bowsprit 22' (outboard) 2 1/2" 5/8" 1/4", 2 1/2" 5/8" 1/4". M. Masts 83' 9" 19' 2" 5/8" 1/4", 2 1/2" 5/8" 1/4". C. Mast 64' 3" 16" 5/8" 1/4", 2 1/2" 5/8" 1/4". M. Lower topsails 44' 9" 14" 5/8" 1/4", 2 1/2" 5/8" 1/4". All built with 3 plates 1/2" Angles, edges single riveted, Rudder Rudder, built & double riveted. Plates (cont'd) tested and found of good quality.*

NUMBER for EQUIPMENT 19.100				Fathoms.	Inches.	Test per Certificate.	Length & Size req'd pr Rule.	Test req'd per Rule.	ANCHORS.	No.	Weight. Ex. Stock.	Test per Certificate.	Wt'n req'd pr Rule.	Test req'd pr Rule.
No.	SAILS.	CABLES, &c.	Chain	135'	1 1/4"	59' 8 1/2"	240	59' 8 1/2"	Bowers	1	32.2.0	31.10.0.0	32	30 3/4"
	Fore Sails,			135'	"	82' 1 3/4"	1 1/4"	82' 1 3/4"		1	32.3.6	31.14.2.0	32	30 3/4"
	Fore Top Sails,									#1	26.3.19	26.6.2.0	26 1/4	26 1/4"
	Fore Topmast Stay Sails													
	Main Sails,													
	Main Top Sails,													

Standing and Running Rigging *Min. Hemp* sufficient in size and *Good* in quality. She has *no* Long Boat and *no* others (4)
The Windlass is *Good* Capstans *Good* and Rudder *Good* Pumps *no* & *Good*

Engine Room Skylights. How constructed? *---* How secured in ordinary weather? *---*

What arrangements for deadlights in bad weather? *---*

Coal Bunker Openings. How constructed? *---* How are lids secured? *---* Height above deck? *---*

Scuppers, &c. What arrangements for clearing upper deck of water, in case of shipping a sea? *4" x 6" scuppers and four large king's ports on each side*

Cargo Hatchways. How formed? *Per Comings &c*

State size Main Hatch *15' 6" x 10'* Forehatch *4' 6" x 4'* Quarterhatch *4' 6" x 4'*

If of extraordinary size, state how framed and secured? *---*

What arrangement for shifting beams? *One*

Hatches, If strong and efficient? *Yes*

Order for Special Survey No. <i>24</i>	DATES of Surveys held while building as per Section 18.	1st. On the several parts of the frame, when in place, and before the plating was wrought	<i>1876 Aug 26, Sept 7, 8, 20, 25, 29, Oct 1, 19, Nov 1, 8, Dec 14, 1876</i>
Date <i>26 July 75</i>		2nd. On the plating during the process of riveting	<i>Feb 15, 17, 19, Aug 15, 22, 25, 28, Sept 4, 6, 9, 12, 15, 21, 25, 27, Oct 4, 10, 12</i>
Order for Ordinary Survey No. <i>---</i>		3rd. When the beams were in and fastened, and before the decks were laid ...	<i>4, 20, 25, Nov 14, 15, 18, 19, 27, Dec 2, 4, 12, 23, 27, 30, 1877, 2, 6, 10</i>
Date <i>---</i>		4th. When the ship was complete, and before the plating was finally coated or cemented ...	<i>12, 15, 17, 20, 23, 24, Feb 1, 4, 12, 14, 19, 22, 26, March 2, 3, 12, 17, 21, 23, 26</i>
No. <i>103</i> in builder's yard.		5th. After the ship was launched and equipped	<i>29, Apr 5, 9, 12, 20, 27, May 3, 4, 12, 15, 17, 24, 26, 28, 31, June 5, 7</i>

General Remarks (State quality of workmanship, &c.) *This is a decked vessel, with Raina Quarter Deck 48 feet in length and Forecastle 32' 6" in length, has been built in accordance with the accompanying approved midship section, and in other respects with the Rules for the 100. A. Class*
The materials of which she is constructed, and the workmanship throughout, are of a superior description, and the Iron work is very efficiently protected from oxidation by Cement and paint

State if ~~one, two, or three~~, decked vessel, or if ~~open, or awning decked~~, and the lengths of ~~poop~~, forecastle, or raised quarter deck, and the length of double, or part double bottom.

How are the surfaces preserved from oxidation? Inside *Cement & paint* Outside *Paint*

I am of opinion this Vessel should be Classed *100. A. 1*

The amount of the Entry Fee ... £ *5* : 0 : 0 is received by me, *M. Neil*
Special ... £ *59* : 6 : 0 *25/6* 1877
Certificate ... *Gates* :

(Travelling Expenses, if any, £ *---*)

Committee's Minute *29th June, 1877.*

Character assigned *100. A. 1*

over
TRW

9.11.14.18.20

