

IRON SHIP. 1864

Recd 18/6/97

No. 11690 Survey held at Sunderland Date, First Survey November 30/76 Last Survey June 15/77 1877

On the Ship "Dartford" Master William Richards

TONNAGE under Tonnage Deck 1171 32
 Ditto of Third Spar, or Awning Deck 98 53
 Ditto of Poop, or Raised Or. Dk. 21 92
 Ditto of Houses on Deck 35 72
 Ditto of Forecastle 1327 49
 Gross Tonnage 53 47
 Less Crew Space 1273 82
 Net Tonnage 1273 82

ONE, OR TWO DECKED, THREE DECKED VESSEL.
 SPAR, OR AWNING-DECKED VESSEL.
 HALF BREADTH (moulded)... 17 91
 DEPTH from upper part of Keel to top of Upper Deck Beams 24 20
 GIRTH of Half Midship Frame (as per Rule) 37 12
 1st NUMBER 79 23
 1st NUMBER, if a THREE DECKED VESSEL
 LENGTH 208
 2nd NUMBER 16479
 PROPORTIONS—Breadths to Length under 6
 Depths to Length—Upper Deck to Keel under 9
 Main Deck ditto

Built at Sunderland
 When built 1877 Launched 12/5 77
 By whom built Mounsey and Foster
 Owners Adamson & Ronaldson
34, Abchurch Lane, London
 Port belonging to Sunderland
 Destined Voyage not known
 Surveyed while Building, Afloat, or in Dry Dock.

LENGTH on deck as per Rule 208 Feet. Inches. BREADTH—Moulded 35 10 Feet. Inches. DEPTH top of Floors to Upper Deck Beams 21 11/2 Feet. Inches. Power of Engines ... Horse. N° of Decks with flat laid N° of Tiers of Beams

Dimensions of Ship per Register, length, 221 5 breadth, 36 depth, 21 9 5

	Inches in Ship.	Inches per Rule.	Inches in Ship.	Inches per Rule.	Inches in Ship.	Inches per Rule.
KEEL, depth and thickness	8 1/2 x 2 1/2	8 1/2 x 2 1/2	8 1/2 x 2 1/2	8 1/2 x 2 1/2	8 1/2 x 2 1/2	8 1/2 x 2 1/2
ITEM, moulding and thickness	8 x 2 1/2	8 x 2 1/2	8 x 2 1/2	8 x 2 1/2	8 x 2 1/2	8 x 2 1/2
ERN-POST for Rudder do. do.	8 x 2 1/2	8 x 2 1/2	8 x 2 1/2	8 x 2 1/2	8 x 2 1/2	8 x 2 1/2
for Propeller	23"	23"	23"	23"	23"	23"
nce of Frames from moulding edge to moulding edge, all fore and aft	23"	23"	23"	23"	23"	23"
AMES, Angle Iron, for 3/4 length amidships	5 3 8	5 3 8	5 3 8	5 3 8	5 3 8	5 3 8
Do. for 1/2 at each end	5 3 7	5 3 7	5 3 7	5 3 7	5 3 7	5 3 7
EVERSED FRAMES, Angle Iron	3 1/2 3 8	3 1/2 3 8	3 1/2 3 8	3 1/2 3 8	3 1/2 3 8	3 1/2 3 8
DOORS, depth and thickness of Floor Plate	27	10	24	10	24	10
half length amidships	12	9 6	12	9 8	12	9 8
at the ends of vessel	50"	48	50"	48	50"	48
the half-bdth. as per Rule	8	8	8	8	8	8
BEAMS, r, Spar, or Awning Deck	8	8	8	8	8	8
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6
Single or double Angle Iron on Upper edge	46"	46"	46"	46"	46"	46"
Average space	46"	46"	46"	46"	46"	46"
BEAMS, Main or Middle Deck	8 1/2	8	8 1/2	8	8 1/2	8
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	3 3 7	3 3 7	3 3 7	3 3 7	3 3 7	3 3 7
Single or double Angle Iron on Upper Edge	46"	46"	46"	46"	46"	46"
Average space	46"	46"	46"	46"	46"	46"
BEAMS, Lower Deck, Hold, or Orlop	8 1/2	8	8 1/2	8	8 1/2	8
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	3 3 7	3 3 7	3 3 7	3 3 7	3 3 7	3 3 7
Single or double Angle Iron on Upper Edge	46"	46"	46"	46"	46"	46"
Average space	46"	46"	46"	46"	46"	46"
KEELSONS Centre line, single or double plate, box, or Intercoastal, Plates	16	12 6 10	16	12 10	16	12 10
Rider Plate	11	12	10 3/4	12	11	12
Bulb Plate to Intercoastal Keelson	5	3 1/2	9	5	3 1/2	9
Angle Irons	5	3 1/2	9	5	3 1/2	9
Double Angle Iron Side Keelson	5	3 1/2	9	5	3 1/2	9
Side Intercoastal Plate	5	3 1/2	9	5	3 1/2	9
do. Angle Irons	5	3 1/2	9	5	3 1/2	9
Attached to outside plating with angle iron	3 1/2	3 8	3 1/2	3 8	3 1/2	3 8
BILGE Angle Irons	5	3 1/2	9	5	3 1/2	9
do. Bulb Iron	5	3 1/2	9	5	3 1/2	9
do. Intercoastal plates riveted to plating for length	5	3 1/2	9	5	3 1/2	9
BILGE STRINGER Angle Irons	5	3 1/2	9	5	3 1/2	9
Intercoastal plates riveted to plating for length	5	3 1/2	9	5	3 1/2	9
SIDE STRINGER Angle Irons	5	3 1/2	9	5	3 1/2	9

Flat Keel Plates, breadth and thickness ...
 PLATES in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges of doubling at Bilge, or increased thickness, and length applied 3 strakes from up. part of Bilge to Ir. edge of Sh'rstrake Main Sheerstrake, breadth and thickness of doubling at Sh'rstrake, & length applied from Mn. to Upr. or Spar Dk. Sh'rstrake Up. or Spar Dk. Sh'rstrake, brdth & thickness
 Butt Straps to outside plating, breadth & thickness
 Lengths of Plating ...
 Shifts of Plating, and Stringers ...
 Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness ...
 Angle Iron on ditto ...
 Tie Plates fore and aft, outside Hatchways ...
 Diagonal Tie Plates on Beams No. of Pairs, 3 ...
 Planksheer material and scantling ...
 Waterways do. do. ...
 Flat of Upper Deck do. do. ...
 How fastened to Beams ...
 Stringer Plate on ends of Main or Middle Deck ...
 Beams, breadth and thickness ...
 Is the Stringer Plate attached to the outside plating?
 Angle Irons on ditto, No. ...
 Tie Plates, outside Hatchways ...
 Diagonal Tie Plates on Beams, No. of pairs ...
 Waterways materials and scantlings ...
 Flat of Middle Deck do. do. ...
 How fastened to Beams ...
 Stringer Plates on ends of Lower Deck, Hold or Orlop Beams ...
 Is the Stringer Plate attached to the outside plating?
 Angle Irons on ditto, No. 2 ...
 Stringer or Tie Plates, outside Hatchways ...
 Flat of Lower Deck ...
 Ceiling betwixt Decks, thickness and material in hold do. do. ...
 Main piece of Rudder, diameter at head do. at heel ...
 Can the Rudder be unshipped afloat? yes
 Bulkheads No. 1 Thickness of Height up To main deck
 How secured to sides of ship Between double frames
 Size of Vertical Angle Irons 3 1/2 x 3 x 8 and distance apart 30 ins.
 Are the outside Plates doubled two spaces of Frames in length? yes

Transoms, material. Knight-heads. Hawse Timbers. Iron
 Windlass Iron patent Pall Bitt None required

The FRAMES extend in one length from Middle line to Gunwale
 The REVERSED ANGLE IRONS on floors and frames extend from middle line to Gunwale on all frames and to alternately
 KEELSONS. Are the various lengths of Plates and Angle Irons properly connected? yes And butts properly shifted? yes

NG. Garboard, double riveted to Keel, with rivets 1 1/8 in. diameter, averaging 5 1/2 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 Main Strakes at Bilge for half length, treble riveted with Butt Straps 1/6 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 half length amidships. Butts of Upper or Spar Sheerstrake, treble riveted length amidships.
 Butts of Main Stringer Plate, treble riveted for half length amidships. Butts of Upper or Spar Stringer Plate, treble riveted for length.
 Breadth of laps of plating in double riveting 6 times Breadth of laps of plating in single riveting 3 1/2 times

at Strap K Stringer and Tie Plates, treble, double or single Riveted?
 aterway, how secured to Beams Gunwale (Explain by Sketch, if necessary.)
 Beams of the various Decks, how secured to the sides? Arms turned on Beams No. of Breasthooks, Five Crutches, Five
 What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Angles, Hoppers, Sill, &c. to Plate, Housefield Iron Co. West Scotland Iron Co.
 Manufacturer's name or trade mark, Hoppers & Co. Housefield & Co. West Scotland Iron Co.

The above is a correct description.
 Builder's Signature, Mounsey & Foster Surveyor's Signature, Surveyor to Lloyd's Register of British and Foreign Shipping.

IRON 472-0312

Workmanship. Are the butts of plating planed or otherwise fitted? *Planed*

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? *a few only*

18642 *Jra*

Masts, Bowsprit, Yards, &c., are *all* 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 *Please see particulars and sketch attached.*

The plates were manufactured by the Bowfield Iron Co and submitted to Hot and Cold test and found to be of very good quality. The Mast and Bowsprit caps are solid forgings

NUMBER for EQUIPMENT <i>17577</i>		Fathoms.	Inches.	Test per Certificate.	Length & Size req'd pr Rule.	Test req'd per Rule.	ANCHORS.	N ^o .	Weight. Ex. Stock.	Test per Certificate.	W'ght req'd per Rule.	Test req'd per Rule.
<i>Two</i> <i>Units</i>	SAILS.	CABLES, &c.	270	1 3/4	59 1/8	270 1 3/4	Bowers	1	32.1.16	30.9.0.7	30 cwt.	28 1/2
	Fore Sails,	Chain	<i>Breaking strain 82 3/4</i>					1	32.0.21	30.5.1.7	30 cwt.	28 1/2
	Fore Top Sails,	<i>Tested at R.W.C.P. Test by J. Hartness.</i>						1	26.3.12	26.5.2.14	25.2.0	25 1/2
	Fore Topmast Stay Sails	<i>Certificates dated 1st Nov 1876.</i>										
	Main Sails,	Chain	90	1"		90.10"						
	Main Top Sails,	Chain	90	12		90.9"						
and		Hawser ...	90	10		90 5 1/2"	Stream	...	1	13.1.14	13.0.0.0	12.0.0
		Towlines ...	90	8			Kedges	...	1	6.1.14	7.9.2.21	9.15.5
		Warp ...	90	4								
		quality <i>good</i>										

Standing and Running Rigging *Mast and Mainmast* sufficient in size and *good* in quality. She has *Three* Long Boats and *one* Life Boat

The Windlass is *good* Capstans *good* and Rudder *good* Pumps *2 main and 2 bilge pumps*

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? *Ports and scuppers each side*

Cargo Hatchways.—How formed? *Plate and angle iron*

State size Main Hatch *15'2" x 10'6"* Forehatch *7'6" x 6'0"* Quarterhatch *7'6" x 9'*

If of extraordinary size, state how framed and secured? *A plate beam is fitted to Main Hatchway*

What arrangement for shifting beams? *riveted to framing*

Hatches, If strong and efficient? *Yes*

Order for Special Survey No. <i>2657</i>	DATES of Surveys held while building as per Sect. on 18.	1st. On the several parts of the frame, when in place, and before the plating was wrought	<i>Built under S.S. and surveyed 1876 Nov. 30 Dec. 4 11 15 18 23 29 / 77</i>
Date <i>21st Nov. 1876</i>		2nd. On the plating during the process of riveting	
Order for Ordinary Survey No. <i>✓</i>		3rd. When the beams were in and fastened, and before the decks were laid...	
Date <i>✓</i>		4th. When the ship was complete, and before the plating was finally coated or cemented..	
No. <i>80</i> in builder's yard.		5th. After the ship was launched and equipped	

General Remarks (State quality of workmanship, &c.) *The workmanship is good and well finished. This vessel is a sister ship to "Arconia" Sunderland, report No 11 500 and has been built in accordance with the approved midship section and detail drawings, received under cover of Breckinridge letter dated the 22nd November 1876 relating to that ship which are herewith returned. A duplicate midship section showing the scantlings and arrangements in this vessel is also forwarded to Messrs. P & O. The vessel has a poop top gallant forecabin and house on deck for the crew.*

State if one, two, or three, decked vessel, or if spar, or arming decked; and the lengths of poop, forecabin, or raised quarter deck, and the length of double, or part double bottom.

How are the surfaces preserved from oxidation? Inside *Cement and Paint* Outside *Paint and Portland Cement*

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, *HW*

Special ... £ 56 : 17 : 0 *15th June 1877*

Certificate ... " : " : "

(Travelling Expenses, if any, £ *✓*).

Committee's Minute *19th June, 1877.*

Character assigned *100 A. 1*

100 A. 1
D.W. Are. P.



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