

IRON 458-0107

IRON SHIP.

Rev 80/7/14 to 6/1

No. 1253 Survey held at Newcastle Date, First Survey 18th Nov 73 Last Survey 15 June 1874.

On the S.S. "Lionel" Yard Number 299 Master Alexander Bruce

Official Number

TONNAGE under Tonnage Deck } 798.86
 Ditto of Third, Spar, or Awning Deck }
 Ditto of Poop, or Raised Or. Dk. }
 Ditto of Houses on Deck } 42.54
 Ditto of Forecastle } 25.01
 Gross Tonnage } 866.21
 Less Crew Space } 40.87
 Less Engine Room } 825.34
 Less Engine Room } 277.19
 Register Tonnage } 548.15
 as cut on Beam }

ONE, OR TWO DECKED, THREE DECKED VESSEL, SPAR, OR AWNING-DECKED VESSEL.

HALF BREADTH (moulded) ... 15.0
 DEPTH from upper part of Keel to top of Upper Deck Beams ... 10.8
 GIRTH of Half Midship Frame (as per Rule) ... 30.5
 1st NUMBER ... 64.1
 1st NUMBER, if a THREE-DECKED VESSEL deduct 7 feet ...
 LENGTH ... 202.5
 2nd NUMBER ... 129.6
 PROPORTIONS—Breadths to Length under ... 7
 Depths to Length—Upper Deck to Keel under ... 11
 Main Deck ditto ...

Built at Newcastle
 When built 1874 Launched 2nd May.
 By whom built Messrs C. Mitchell & Co
 Owners H. Clapham & Co
 Port belonging to Newcastle
 Destined Voyage Mediterranean
 If Surveyed while Building, Afloat, or in Dry Dock.

LENGTH on deck as per Rule ... 202 6
 BREADTH Moulded ... 30 0
 DEPTH top of Floors to Upper Deck Beams ... 14 1
 Power of Engines ... 98
 Horse ...
 N° of Decks with flat laid out ...
 N° of Tiers of Beams ...

Dimensions of Ship per Register, length 203.5 breadth, 30.2 depth, 17.3

	Inches in Ship.			Inches per Rule.		
	Inches.	Inches.	16ths.	Inches.	Inches.	16ths.
	In Ship.	In Ship.	In Ship.	required per Rule	required per Rule	required per Rule
KEEL, depth and thickness	4	3	7/16	4	3	7/16
STEM, moulding and thickness	4	3	7/16	4	3	7/16
STERN-POST for Rudder do. do. for Propeller	4	3	7/16	4	3	7/16
Distance of Frames from moulding edge to moulding edge, all fore and aft	22			22		
FRAMES, Angle Iron, for 2/3 length amidships Do. for 1/2 at each end	4	3	7/16	4	3	7/16
REVERSED FRAMES, Angle Iron	3	3	6	3	3	6
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships thickness at the ends of vessel depth at 3/4 the half-bdth. as per Rule height extended at the Bilges	19	8	19	19	8	19
BEAMS, Upper, Spar, or Awning Deck Single or double Ang. Iron, Plate or Tee Bulb Iron Single or double Angle Iron on Upper edge Average space	5	3	7	5	3	7
BEAMS, Main or Middle Deck Single or double Ang. Iron, Plate or Tee Bulb Iron Single, or double Angle Iron, on Upper Edge Average space	on every frame.					
BEAMS, Lower Deck, Hold or Orlop Single or double Ang. Iron, Plate or Tee Bulb Iron Single or double Angle Iron on Upper Edge Average space	4 1/2	7	4 1/2	7	4 1/2	7
KEELSONS Centre line, single or double plate, Box, or Intercostal, Plates Bulb Plate to Intercostal Keelson Angle Irons Double Angle Iron Side Keelson Side Intercostal Plate do. Angle Irons Attached to outside plating with angle iron	23	4	23	4	23	4
BILGE Angle Irons do. Bulb Iron do. Intercostal plates riveted to plating for length	4	4	7	4	4	7
BILGE STRINGER Angle Irons Intercostal plates riveted to plating for length	4	4	7	4	4	7
SIDE STRINGER Angle Irons	4	4	7	4 1/2	3 1/2	7
Transoms, material. Knight-heads. Hawse Timbers.	Iron and oak					
Windlass	Hafield's patent Pall Bitt Iron					

	Inches. In Ship.	16ths. In Ship.	Inches. required	16ths. required
Flat Keel Plates, breadth and thickness	32	12	30	12
PLATES in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges of doubling at Bilge, or increased thickness, and length applied	30	9	30	9
fm up. part of Bilge to lr. edge of Sh'rstrake Main Sheerstrake, breadth and thickness of d'bling at Sh'rstrake, & length applied from Mn. to Upr. or Spar Dk. Sh'rstrake. Up. or Spar Dk Sh'rstrake, brdth & thickness	36	10	36	10
Butt Straps to outside plating, breadth & thickness	8 1/4	6 1/4	8 1/4	6 1/4
Lengths of Plating	6 spaces		5 spaces	
Shifts of Plating, and Stringers	2 do		2 do	
Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness	29	8	29	8
Angle Iron on ditto	4 x 4 x 7		4 x 4 x 7	
Tie Plates fore and aft, outside Hatchways				
Diagonal Tie Plates on Beams No. of Pairs				
Plank-shear material and scantling				
Waterways do. do.				
Flat of Upper Deck do. do.	Iron		6	
How fastened to Beams	riveted		6	
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	22	8	22	8
Is the Stringer Plate attached to the outside plating?	Yes.			
Angle Irons on ditto, No.	2		3 1/2	3 1/2
Stringer or Tie Plates, outside Hatchways				
Flat of Lower Deck				
Ceiling betwixt Decks, thickness and material in hold do. do.	2 1/2	fr	2 1/2	
Main piece of Rudder, diameter at head do. at heel	5		5	
Can the Rudder be unshipped afloat?	Yes			
Bulkheads No. 4 Thickness of	6/16			
Height up	all to upper deck			
How secured to sides of ship	by double plates.			
Size of Vertical Angle Irons	3 x 3 x 9/16			
and distance apart	30 ins.			
Are the outside Plates doubled two spaces of Frames in length?	Yes.			

The FRAMES extend in one length from Keel to gunwale Riveted through plates with 3/4 in. Rivets, about 6" apart.

The REVERSED ANGLE IRONS on floors and frames extend across middle line to I. D. S. A. I. and to gunwale 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 7/8 in. diameter, averaging 4 ins. from centre to centre.

Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets 3/4 in. diameter, averaging 3 ins. from centre to centre.

Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 3/4 in. diameter averaging 3 ins. from centre to centre.

Butts of 2 Strakes at Bilge for 1/2 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 3/4 in. diameter, averaging 3 ins. from cr. to cr.

Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 3/4 in. diameter, averaging 3 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 1/2 length amidships. Butts of Upper or Spar Sheerstrake, treble riveted length amidships

Butts of Main Stringer Plate, treble riveted for 1/2 length amidships. Butts of Upper or Spar Stringer Plate, treble riveted for length

Breadth of laps of plating in double riveting 4 1/2 Breadth of laps of plating in single riveting 2 1/2

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? double and treble riveted

Waterway, how secured to Beams (Explain by Sketch, if necessary.) Wedge pieces riveted

Beams of the various Decks, how secured to the sides? No. of Breasthooks, 4 Crutches, 4

What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Frames, beams, and angles from the Stockton Malleable Iron Co and Palmer's patent; the plating from Hartlepool Malleable Iron Co, Bolckow, Vaughan & Co, Palmer & Co, and The Newcastle & Carlisle Iron Works Co.

The above is a correct description

Builder's Signature, C. Mitchell & Co Surveyor's Signature, R. Reed

Workmanship. Are the butts of plating planed or otherwise fitted? *planed where practicable*
 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? *fairly so.*
 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.*

Masts, Bowsprit, Yards, &c., are *wood* 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 *✓*

13098 Iron

NUMBER for EQUIPMENT <i>4273</i>		Fathoms.	Inches.	Test per Certificate.	Lngh. & Size req'd pr Rule	Test req'd per Rule.	ANCHORS, &c.	N ^o .	Weight. Ex. Stock.	Test per Certificate.	W'ght req'd per Rule.	Test req'd per Rule.
No. <i>one full set and one</i>	SAILS.											
	Fore Sails,	Chain ...	<i>240</i>	<i>17/16</i>	<i>37/4</i>	<i>240-17/16</i>	<i>37/320</i>		<i>18.3.21</i>	<i>19.15.17</i>	<i>10.0.0</i>	<i>19</i>
	Fore Top Sails,	Cables, &c. <i>Breaking strain</i>	<i>Cardiff P.H. G.W. Penn</i>	<i>Supt</i>	<i>3</i>	<i>15.3.10</i>	<i>17.5.10</i>	<i>15.1.8</i>	<i>16.14.20</i>			
	Fore Topmast Stay Sails	Strm Cbl	<i>90</i>	<i>15/16</i>	<i>13.3.74</i>	<i>90-15/16</i>						
	Main Sails,	Hawser ...	<i>90</i>	<i>8</i>	<i>90-9</i>							
Main Top Sails,	Towlines ...	<i>100</i>	<i>5</i>	<i>90-5/8</i>								
	Warp quality <i>good</i>											

Standing and Running Rigging *heap* sufficient in size and *good* in quality. She has *1* Life ~~Long~~ Boat and *2* others.
 The Windlass is *iron patent* Capstan *good* and Rudder *good* Pumps *good and efficient.*
 Engine Room Skylights—How constructed? *paneled & sashes with glass & guards* How secured in ordinary weather? *rolled down*
 What arrangements for deadlights in bad weather? *tar paper*
 Coal Bunker Openings.—How constructed? *wood hatchways* How are lids secured? *rolled down* Height above deck? *8' on bulk*
 Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? *five ports and mooring pipes on each side*
 Cargo Hatchways.—How formed? *iron comings & head ledges riveted.*
 State size Main Hatch *20'0" x 10'0"* Forehatch *4'6" x 8'0"* Quarterhatch *11'0" x 10'0"*
 If of extraordinary size, state how framed and secured? *ordinary size*
 What arrangement for shifting beams? *one iron shifting beam.*
 Hatches, If strong and efficient? *yes.*

Order for Special Survey No. <i>900</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>Built under Special Survey.</i>
Date <i>2 June 73</i>		2nd. On the plating during the process of riveting	<i>1873 Nov. 18. 26. Dec. 3. 15. 24. 31.</i>
Order for Ordinary Survey No. <i>—</i>		3rd. When the beams were in and fastened, and before the decks were laid....	<i>1874 Jan. 10. 16. 22. 30. Feb. 9. 14. 18. 24. March</i>
Date <i>—</i>		4th. When the ship was complete, and before the plating was finally coated or cemented..	<i>4. 10. 16. 20. 27. April 13. 18. 21. 27. May 12.</i>
No. <i>299</i> in builder's yard.		5th. After the ship was launched and equipped	<i>19. 22. 28. June 5. 12. 19.</i>

General Remarks, (State quality of workmanship &c.) *This is a "two-decked" vessel with one deck laid; she has a poop 27'6" long, and a top-gallant fore-castle 29 feet long. She is built in accordance with the midship section attached, and in other respects in accordance with the Rules. She has a water ballast tank under the engines and boilers, the top plating of same being 1/16" thick, and another in the after hold with top-plating 1/16" and flange plates 1/16" thick. The workmanship in this case is good.*

State if one, two or three decked vessel, or if spar or awning decked, and lengths of poop, fore-castle or raised quarter deck, or of double or part double bottom.
 How are the surfaces preserved from oxidation? Inside *by cement & paint* Outside *by paint & composition*

I am of opinion this Vessel should be Classed *90A.1.*
 The amount of the Entry Fee ... £ *5* ... is received by me, *P. Brown*
 Special Certificate ... £ *41.6* ... 29 July 1874
 (Travelling Expenses) (if any) £ *—*
 Committee's Minute *31st July 1874*
 Character assigned *90A.1*
J.P.M. A.P.P. part double bottom M.C.

H. & W. Mitchell & Co., Surveyors, Newcastle-on-Tyne.

