

# IRON SHIP.

No. 12616 Survey held at Newcastle Date, First Survey 4<sup>th</sup> March 73 Last Survey Oct 1<sup>st</sup> 74 18 74  
On the S.S. S. L. O. Smith Yard Number 293 Master A. Mc Nab Rec'd 15/10/74

**TONNAGE** under Tonnage Deck } 3150.37  
Ditto of Third, Spar, or Awning Deck }  
Ditto of Poop, 209.46  
Ditto of Houses on Deck } 100.52  
Ditto of Forecastle } 72.44  
Gross Tonnage 3541.39  
Less Crew Space 111.83  
3429.56  
Less Engine Room 1133.24  
Register Tonnage 2296.32  
as cut on Beam

**ONE OR TWO DECKED, THREE DECKED VESSEL.**  
**SPAR, OR AWNING DECKED VESSEL.**  
**HALF BREADTH** (moulded) ... .. 21.0  
**DEPTH** from upper part of Keel to top of Upper Deck Beams 31.3  
**GIRTH** of Half Midship Frame (as per Rule) ... .. 46.3  
**1st NUMBER** ... .. 98.6  
**1st NUMBER, if a THREE-DECKED VESSEL** 7  
deduct 7 feet ... .. 91.6  
**LENGTH** ... .. 327.6  
**2nd NUMBER** ... .. 34550  
**PROPORTIONS**—Breadths to Length under ... .. 9  
Depths to Length—Upper Deck to Keel under ... .. 13  
Main Deck ditto under ... .. 17

Built at Newcastle  
When built 1874 Launched 21<sup>st</sup> March  
By whom built Messrs B. Mitchell & Co  
Owners E. H. Watts  
Port belonging to LONDON  
Destined Voyage Melbourne  
If Surveyed while Building, Afloat, or in Dry Dock.

**LENGTH** on deck as per Rule ... .. 327.6 **BREADTH** Moulded ... .. 42.0 **DEPTH** top of Floors to Upper Deck Beams ... .. 29.1 1/2  
Do. do. Main Deck Beams ... .. 21 1/4 Power of Engines ... .. 450 Horse. 450 No. of Decks with flat laid two  
No. of Tiers of Beams Full

Dimensions of Ship per Register, length, 389.5 breadth, 42.1 depth, 28.9

	Inches in Ship.	Inches per Rule.
<b>KEEL</b> , depth and thickness ... ..	<u>11 x 3</u>	<u>11 x 3</u>
<b>STEM</b> , moulding and thickness ... ..	<u>11 x 3</u>	<u>11 x 3</u>
<b>STERN-POST</b> for Rudder do. do. ... ..	<u>11 x 3 3/4</u>	<u>11 x 6</u>
for Propeller ... ..	<u>11 x 6</u>	<u>11 x 6</u>
Distance of Frames from moulding edge to moulding edge, all fore and aft ... ..	<u>24</u>	<u>24</u>
<b>FRAMES</b> , Angle Iron, for 2/3 length amidships ... ..	<u>5 3/4 x 8</u>	<u>5 3/4 x 8</u>
Do. for 1/3 at each end ... ..	<u>5 3/4 x 7</u>	<u>5 3/4 x 7</u>
<b>REVERSED FRAMES</b> , Angle Iron ... ..	<u>3 1/2 x 8</u>	<u>3 1/2 x 8</u>
<b>FLOORS</b> , depth and thickness of Floor Plate at mid line for half length amidships ... ..	<u>25 1/2 x 10</u>	<u>25 1/2 x 10</u>
thickness at the ends of vessel ... ..	<u>9 x 10</u>	<u>9 x 10</u>
depth at 3/4 the half b'dth as per Rule ... ..	<u>57</u>	<u>57</u>
height extended at the Bilges ... ..	<u>57</u>	<u>57</u>
<b>BEAMS</b> , Upper, Spar, or Awning Deck } Single or double Angle Iron, Plate or Tee Bulb Iron } <u>7 1/2 x 7</u>	<u>7 1/2 x 7</u>	<u>7 1/2 x 7</u>
Single or double Angle Iron on Upper edge ... ..	<u>3 2 1/2 x 5</u>	<u>3 2 1/2 x 5</u>
Average space ... ..	<u>in alternate frames</u>	<u>in alternate frames</u>
<b>BEAMS</b> , Main or Middle Deck ... ..	<u>10 x 10</u>	<u>10 x 10</u>
Single or double Angle Iron, Plate or Tee Bulb Iron } <u>3 1/2 x 7</u>	<u>3 1/2 x 7</u>	<u>3 1/2 x 7</u>
Single or double Angle Iron on Upper Edge ... ..	<u>3 1/2 x 7</u>	<u>3 1/2 x 7</u>
Average space ... ..	<u>in alternate frames</u>	<u>in alternate frames</u>
<b>BEAMS</b> , Lower Deck, Hold or Orlop } Single or double Angle Iron, Plate or Tee Bulb Iron } <u>10 x 10</u>	<u>10 x 10</u>	<u>10 x 10</u>
Single or double Angle Iron on Upper Edge ... ..	<u>3 1/2 x 7</u>	<u>3 1/2 x 7</u>
Average space ... ..	<u>in alternate frames</u>	<u>in alternate frames</u>
<b>KEELSONS</b> Centre line, single or double plate, box, or intercostal, Plates ... ..	<u>23 x 14</u>	<u>23 x 14</u>
" Rider Plate ... ..	<u>11 x 10</u>	<u>11 x 10</u>
" Bulb Plate to Intercostal Keelson ... ..	<u>6 x 10</u>	<u>6 1/2 x 9</u>
" Angle Irons ... ..	<u>6 x 10</u>	<u>6 1/2 x 9</u>
" Double Angle Iron Side Keelson ... ..	<u>6 x 10</u>	<u>6 1/2 x 9</u>
" Side Intercostal Plate ... ..	<u>6 x 10</u>	<u>6 1/2 x 9</u>
" do. Angle Irons ... ..	<u>6 x 10</u>	<u>6 1/2 x 9</u>
" Attached to outside plating with angle iron ... ..	<u>3 1/2 x 8</u>	<u>3 1/2 x 8</u>
<b>BILGE</b> Angle Irons ... ..	<u>6 x 10</u>	<u>6 1/2 x 9</u>
" do. Bulb Iron ... ..	<u>10 x 10</u>	<u>10 x 10</u>
" do. Intercostal plates riveted to plating for 1/2 length ... ..	<u>10</u>	<u>10</u>
<b>BILGE STRINGER</b> Angle Irons ... ..	<u>6 x 10</u>	<u>6 1/2 x 9</u>
Intercostal plates riveted to plating for length ... ..	<u>10</u>	<u>10</u>
<b>SIDE STRINGER</b> Angle Irons ... ..	<u>6 x 10</u>	<u>6 1/2 x 9</u>
Intercostal plates riveted to plating for length ... ..	<u>10</u>	<u>10</u>
Transoms, material. Knight-heads. Hawse Timbers. <u>iron &amp; oak</u>		
Windlass <u>iron &amp; oak</u> Pall Bitt <u>iron</u>		

	Inches in Ship.	16ths in Ship.	Inches required	16ths required
<b>Flat Keel Plates</b> , breadth and thickness ... ..	<u>36</u>	<u>17</u>	<u>56</u>	<u>13</u>
<b>PLATES</b> in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges of doubling at Bilge, or increased thickness, and length applied ... ..	<u>12</u>	<u>12</u>	<u>12</u>	<u>12</u>
fm up. part of Bilge to l. edge of Sh'rstrake	<u>12</u>	<u>12</u>	<u>12</u>	<u>12</u>
Main Sheerstrake, breadth and thickness of d'bling at Sh'rstrake, & length applied from Mn. to Up. or Spar Dk. Sh'rstrake.	<u>40</u>	<u>14</u>	<u>40</u>	<u>14</u>
Up. or Spar Dk Sh'rstrake, brdth & thickness	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>
Butt Straps to outside plating, breadth & thickness	<u>40</u>	<u>11</u>	<u>40</u>	<u>11</u>
Lengths of Plating ... ..	<u>5 1/2</u>	<u>15</u>	<u>19</u>	<u>15</u>
Shifts of Plating, and Stringers ... ..	<u>2</u>	<u>do</u>	<u>do</u>	<u>do</u>
Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness ... ..	<u>75</u>	<u>9</u>	<u>75</u>	<u>9</u>
Angle Iron on ditto ... ..	<u>4 x 4 x 9</u>	<u>4 x 4 x 9</u>	<u>4 x 4 x 9</u>	<u>4 x 4 x 9</u>
Tie Plates fore and aft, outside Hatchways	<u>10</u>	<u>9</u>	<u>10</u>	<u>9</u>
Diagonal Tie Plates on Beams No. of Pairs	<u>5</u>	<u>10</u>	<u>18</u>	<u>10</u>
Plank-sheer material and scantling ... ..	<u>3 1/2</u>	<u>3 1/2</u>	<u>3 1/2</u>	<u>3 1/2</u>
Waterways do. do. ... ..	<u>3 1/2</u>	<u>3 1/2</u>	<u>3 1/2</u>	<u>3 1/2</u>
Flat of Upper Deck do. do. ... ..	<u>3 1/2</u>	<u>3 1/2</u>	<u>3 1/2</u>	<u>3 1/2</u>
How fastened to Beams ... ..	<u>3 1/2</u>	<u>3 1/2</u>	<u>3 1/2</u>	<u>3 1/2</u>
Stringer Plate on ends of Main or Middle Deck Beams, breadth and thickness ... ..	<u>63</u>	<u>10</u>	<u>63</u>	<u>10</u>
Is the Stringer Plate attached to the outside plating? <u>yes</u>				
Angle Irons on ditto, No. <u>2</u> ... ..	<u>4 x 4 x 9</u>	<u>4 x 4 x 9</u>	<u>4 x 4 x 9</u>	<u>4 x 4 x 9</u>
Tie Plates, outside Hatchways ... ..	<u>10</u>	<u>10</u>	<u>18</u>	<u>10</u>
Diagonal Tie Plates on Beams, No. of pairs <u>5</u> ... ..	<u>10</u>	<u>10</u>	<u>18</u>	<u>10</u>
Waterways materials and scantlings ... ..	<u>3 1/2</u>	<u>3 1/2</u>	<u>3 1/2</u>	<u>3 1/2</u>
Flat of Middle Deck do. do. ... ..	<u>3 1/2</u>	<u>3 1/2</u>	<u>3 1/2</u>	<u>3 1/2</u>
How fastened to Beams ... ..	<u>3 1/2</u>	<u>3 1/2</u>	<u>3 1/2</u>	<u>3 1/2</u>
Stringer Plates on ends of Lower Deck, Hold or Orlop Beams ... ..	<u>3 1/2</u>	<u>9</u>	<u>3 1/2</u>	<u>9</u>
Is the Stringer Plate attached to the outside plating? <u>yes</u>				
Angle Irons on ditto, No. <u>2</u> ... ..	<u>4 x 4 x 9</u>	<u>4 x 4 x 9</u>	<u>4 x 4 x 9</u>	<u>4 x 4 x 9</u>
Stringer or Tie Plates, outside Hatchways ... ..	<u>10</u>	<u>10</u>	<u>18</u>	<u>10</u>
Flat of Lower Deck ... ..	<u>3 1/2</u>	<u>3 1/2</u>	<u>3 1/2</u>	<u>3 1/2</u>
Ceiling betwixt Decks, thickness and material in hold do. do. ... ..	<u>2 1/2</u>	<u>2 1/2</u>	<u>2 1/2</u>	<u>2 1/2</u>
Main piece of Rudder, diameter at head do. at heel ... ..	<u>4 1/2</u>	<u>4 1/2</u>	<u>4 1/2</u>	<u>4 1/2</u>
Can the Rudder be unshipped afloat? <u>yes</u>				
Bulkheads No. <u>4</u> Thickness of <u>7/16</u>				
Height up <u>3 1/2</u> Main & the forward one to upper deck				
How secured to sides of ship <u>to double frames</u>				
Size of Vertical Angle Irons <u>3 1/2 x 7 1/2</u> and distance apart <u>30</u> ins.				
Are the outside Plates doubled two spaces of Frames in length? <u>yes</u>				

The **FRAMES** extend in one length from Keel to gunwale Riveted through plates with 7/16 in. Rivets, about 7 apart.  
The **REVERSED ANGLE IRONS** on floors and frames extend from middle line to about N.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 7/16 in. diameter, averaging 6 ins. from centre to centre.  
Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets 7/16 in. diameter, averaging 3 1/2 ins. from centre to centre.  
Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 7/16 in. diameter averaging 3 1/2 ins. from centre to centre.  
Butts of 3 Strakes at Bilge for 1/2 length, treble riveted with Butt Straps 7/16 thicker than the plates they connect.  
Edges from bilge to Main Sheerstrake, worked clencher, double or single riveted; with rivets 7/16 in. diameter, averaging 3 1/2 ins. from cr. to cr.  
Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 7/16 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 1/2 length amidships. Butts of Upper or Spar Sheerstrake, treble riveted 1/2 length amidships.  
Butts of Main Stringer Plate, treble riveted for 1/2 length amidships. Butts of Upper or Spar Stringer Plate, treble riveted for 1/2 length.  
Breadth of laps of plating in double riveting 5 Breadth of laps of plating in single riveting

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? double and treble riveted  
Waterway, how secured to Beams riveted (Explain by Sketch, if necessary.)  
Beams of the various Decks, how secured to the sides? welded lines riveted to frame No. of Breasthooks, 5 Crutches, 4  
What description of Iron is used for Frames, Beams, Keelsons, Tie and Stringer Plates, Outside Plating, &c.? frames, beams, & angles from  
Manufacturer's name or trade mark, Robt. Wilson & Bell: the plating from the Carrington Iron Works; the  
Hartlepool M.S.C. Co.; Palmer's, Janow; and the Steelite M.S.C. Co.  
The above is a correct description.

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



**Workmanship.**

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

13535 *Iron*

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 *unshod* 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. *Foremast iron, length 92.8 clear 2 1/4"*  
*Mainmast " 80.0 do 2 1/4"*  
*Iron and main masts given 7/16" and 6/16" thick, two plates in the round, lands double riveted, butts double riveted, but butts riveted in way of partners. The plating from the Stockton Malleable Iron Co.*

**NUMBER for EQUIPMENT**

N°.	SAILS.	CABLES, &c.	Fathoms.	Inches.	Test per Certificate.	In. req'd per Rule.	Test req'd per Rule.	ANCHORS, &c.	N°.	Weight. Ex. Stock.	Test per Certificate.	Wght req'd per Rule.	Test req'd per Rule.
	Fore Sails,	Chain ...	300	2 1/16	765/8	300-2 1/16	76 1/2	Bowers ...	3	40.0.7	35.15.32	40.0.0	35 1/2
	Fore Top Sails,	(Machine where Tested, date, and name of Superintendent.)			107.5.2.0			(Machine where Tested, date, and name of Superintendent.)		38.2.12	34.17.5.7	40.0.0	35 1/2
	Fore Topmast Stay Sails	Hempen Stream	14.27/4	28	Nov 1873			Stream ...	1	15.2.0		15.0.0	31 2/20
	Main Sails,	Cable chain	90	1 3/16		90-1 3/16		Kedges ...	2	4.2.14		7.2.0	
	Main Top Sails,	Hawser ...	90	10 1/2	manilla	90-12				3.3.0		3.3.0	
		Towlines ...	90	8		90-8							
		Warp ...	90	8									
		quality <i>good</i>	240	5	manilla								

Standing and Running Rigging *heup* sufficient in size and *good* in quality. She has *2 iron life* Long Boats and *5 others*.

The Windlass is *good* Capstan *good* and Rudder *good* Pumps *good & sufficient*

Engine Room Skylights.—How constructed? *solid shutters & bulwarks* How secured in ordinary weather? *latched*

What arrangements for deadlights in bad weather? *solid shutters*

Coal Bunker Openings.—How constructed? *cast iron* How are lids secured? *latched down* Height above deck? *9 1/4*

Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? *clew ports each side*

Cargo Hatchways.—How formed? *iron coming and head ledges riveted together*

State size Main Hatch *20' x 12'* Forehatch *12' x 9'* Quarterhatch *16' x 12'*

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

What arrangement for shifting beams? *Two shifting beams of half iron and double angles*

Hatches, If strong and efficient? *yes*

Order for Special Survey No. *293* 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 *built under Special Survey*

2nd. On the plating during the process of riveting *1873 March 4.12.19. July 1.10.16.23.29. Aug 1.8.*

3rd. When the beams were in and fastened, and before the decks were laid *1873 27.28. Sept 4.11.19. Oct 3.10.16.28.*

4th. When the ship was complete, and before the plating was finally coated or cemented *Nov. 5.12.18.26. Dec. 3.12.18.*

5th. After the ship was launched and equipped *19.24.31. 1874. Jan 10.16.23.30. Feb 9.14.18.24. March 4.10.16.20.23. April 27. May 12.19.22.28. June 5.12.15. July 3.27. Aug 10.17.24. 25.28. Sep 2.8.15.18. Oct 1.*

Order for Ordinary Survey No. *—* Date *—*

No. *293* in builder's yard.

General Remarks, (State quality of workmanship &c.) *This is a three decked vessel, with a poop 96 feet, and a topgallant forecabin 52 feet long. Under the rigging the main frames are doubled out to the bilges. Crossing the engine & boiler space are two hunter bulkheads 7/16" thick, three semi-box beams, two formed of built iron 10 x 7/16" and double angles 4 x 4 x 9/16", and an additional one is fitted over the hollow of plate and double angles top and bottom, the plate being 14 x 7/16" and the angles 6 x 4 x 9/16", secured by deep knee plates to the frames. She is fitted with semi-box beams in the fore and after holds, spaced as per Rule. She is also fitted with panting-beams and a stringer plates riveted to the skin. She has an iron main deck extending from the collision bulkhead to extreme after end of the vessel, the same being 7/16" thick for 1/2 length amidships, and 9/16" at the ends, all butts double riveted. A doubling plate 12/16" thick is wrought between the main and upper deck stringers for a length of 160 feet amidships, the butts of which are all double riveted; and a strengthening plate 16 feet long and 2 1/2" deep is wrought above the upper deck stringer plate in way of fore-main hatchway. She is to be Barque rigged, and the workmanship throughout is good. It is hoped that the slight deficiency, quite accidental, to be observed in the case of the 2nd lower anchor will not be the cause for delaying the vessel's clearance.*

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

How are the surfaces preserved from oxidation? Inside *by cement and paint* Outside *by paint & composition*

I am of opinion this Vessel should be Classed *100 A. I. Three decks, three tiers of beams.*

The amount of the Entry Fee ... £ 5 : : : is received by me, *R. Young*

Special ... £ 110 : 14 : 6 *14/10/74*

Certificate ...

(Travelling Expenses) (if any) £

Committee's Minute *16th October 1874*

Character assigned *100 A*

*M.C. 2 Decks 3 tiers of Beams*

*Three Decks*

*Three tiers of Beams*

*14/10/74*

*R. Young*

*The second lower anchor is 1 1/2" cut light, but the lower is 2 1/2" in diameter. This vessel is thus slightly deficient, but is recommended.*

*Lloyd's Register*

*1874*