

IRON SHIP.

No. 2913 Survey held at *Belfast* Date, First Survey *27th January 1881* Last Survey *23rd Dec. 1882*

On the *Screw Steamer "City of Cambridge"*

TONNAGE under Tonnage Deck *2589.29* ONE, OR TWO DECKED, THREE DECKED VESSEL, SPAR, OR AWNING-DECKED VESSEL.
 Ditto of Third, Spar, or Awning Deck. *1034.10* Half Breadth (moulded) *20.87*
 Ditto of Poop, or Raised Qr. Dk. *5573.47* Depth from upper part of Keel to top of Upper Deck Beams *32.16*
 Ditto of Houses on Deck *214.86* Girth of Half Midship Frame (as per Rule) *47.7*
 Ditto of Forecastle *-* 1st Number *100.4*
 Gross Tonnage *3788.33* 1st Number, if a 3-Decked Vessel .. deduct 7 feet *7*
 Less Crew Space *102.58* Length *93.7*
 Less Engine Room *3685.45* 2nd Number *37.351*
 Register Tonnage as cut on Beam *2473.40* Proportions— Breadths to Length *9.54*
 Depths to Length— Upper Deck to Keel *12.39*
 Main Deck ditto *16.26*

Master *David Anderson*
 Built at *Belfast*
 When built *1882* Launched *Aug¹⁵*
 By whom built *Workman, Clark & Co*
 Owners *George Smith & Sons*
 Residence *Glasgow*
 Port belonging to *Glasgow*
 Destined Voyage *Calcutta*
 Surveyed while Building, Afloat, & in Dry Dock, *Specially surveyed while Building*

LENGTH on deck as per Rule *390.6* BREADTH— Moulded *41.9* DEPTH top of Floors to Upper Deck Beams *29.94* Power of Engines *650* No. of Decks with flat laid *3* No. of Tiers of Beams *3*

Dimensions of Ship per Register, length, *400.05* breadth, *42.15* depth, *29.65*

	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	11 x 3/4	11 x 3/4	Flat Keel Plates, breadth and thickness	36	14	36	14				
STEM, moulding and thickness	11 x 3/4	11 x 3/4	PLATES in Garboard Strakes, br'dth & thickness	36	14	36	14				
STERN-POST for Rudder do. do.	11 1/2 x 7	11 x 6 1/2	From Garboard to upper part of Bilges	12 1/2	13	12 1/2	13				
" " for Propeller	12 x 7	12 x 7	Of d'bling at Bilge, or increased thickness and length applied over 1/2 length	13	13	13	13				
Distance of Frames from moulding edge to moulding edge, all fore and aft	24	24	From up. prt of Bilge to l.r. edge of Sh'rstrake	12 1/2	13	12 1/2	13				
			Main Sheerstrake, breadth and thickness	13	13	13	13				
FRAMES, Angle Iron, for 1/2 length amidships	5 1/2 x 3 1/2	5 1/2 x 3 1/2	Of d'bling at Sh'stk. & lng. applied 3/4 length	13	13	13	13				
Do. for 1/2 at each end	5 1/2 x 3 1/2	5 1/2 x 3 1/2	From M'n. to Up. or Spar Dk. Sh'rstrake	13	13	13	13				
REVERSED FRAMES, Angle Iron	4 x 3 1/2	4 x 3 1/2	Up. or Spar Dk Sh'rstrake, br'dth & thickn'ss	13	13	13	13				
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships	28 x 10	28 x 10	Butt Straps to outside plating, breadth & thickness	14 1/2	14 1/2	14 1/2	14 1/2				
" thickness at the ends of vessel	8	8	Lengths of Plating	7 spaces	5 spaces	7 spaces	5 spaces				
" depth at 3/4 the half-bdth. as per Rule	14	14	Shifts of Plating, and Stringers	2	2	2	2				
" height extended at the Bilges	56	56	Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness	54	9	54	9				
BEAMS, Upper, Spar, or Awning Deck	8 1/2 x 8	8 1/2 x 8	Angle Iron on ditto	4 x 4 x 9	4 x 4 x 9	4 x 4 x 9	4 x 4 x 9				
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	3 1/2 x 7	3 1/2 x 7	Tie Plates fore and aft, outside Hatchways	7	7	7	7				
Single or double Angle Iron on Upper edge	48	48	Diagonal Tie Plates on Beams No. of Pairs	3	3	3	3				
Average space	10	10	Flat of Up., Spar, or Awning Dk.	Leak	3 1/2 over iron dk	Leak	3 1/2 over iron dk				
BEAMS, Main, or Middle Deck	10 x 10	10 x 10	How fastened to Beams	Galv. bolts & nuts	Galv. bolts & nuts	Galv. bolts & nuts	Galv. bolts & nuts				
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	3 1/2 x 7	3 1/2 x 7	Stringer Plate on ends of Main or Middle Deck	54	10	54	10				
Single or double Angle Iron, on Upper Edge	48	48	Beams, breadth and thickness	54	10	54	10				
Average space	10	10	Is the Stringer Plate attached to the outside plating?	yes	yes	yes	yes				
BEAMS, Lower Deck	10 x 10	10 x 10	Angle Irons on ditto, No. 2	4 x 4 x 9	4 x 4 x 9	4 x 4 x 9	4 x 4 x 9				
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	3 1/2 x 7	3 1/2 x 7	Tie Plates, outside Hatchways	Iron dk	Iron dk	Iron dk	Iron dk				
Single or double Angle Iron, on Upper Edge	48	48	Diagonal Tie Plates on Beams, No. of pairs	7	7	7	7				
Average space	10	10	Flat of Middle Deck* do. do.	2 P. Pine	2 P. Pine	2 P. Pine	2 P. Pine				
BEAMS, Hold, or Orlop	3	3	How fastened to Beams	Scrub bolts	Scrub bolts	Scrub bolts	Scrub bolts				
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	3	3	Stringer Plates on ends of Lower Deck, Hold or Orlop Beams	50	9	50	9				
Single or double Angle Iron, on Upper Edge	3	3	Is the Stringer Plate attached to the outside plating?	yes	yes	yes	yes				
Average space	3	3	Angle Irons on ditto, No. 2	4 x 4 x 9	4 x 4 x 9	4 x 4 x 9	4 x 4 x 9				
KEELSONS Centre line, single or double plate, and box, or Intercoastal, Plates	23 x 14	23 x 14	Stringer or Tie Plates, outside Hatchways	20	9	20	9				
" Rider Plate	14 1/2 x 14	14 1/2 x 14	Flat of Lower Deck*	3 W. Pine	3 W. Pine	3 W. Pine	3 W. Pine				
" Bulb Plate to Intercoastal Keelson	6 1/2 x 4 1/2	6 1/2 x 4 1/2									
" Angle Irons	6 1/2 x 4 1/2	6 1/2 x 4 1/2	Ceiling betwixt Decks, thickness and material	Spruce battens	Spruce battens	Spruce battens	Spruce battens				
" Double Angle Iron Side Keelson	6 1/2 x 4 1/2	6 1/2 x 4 1/2	" in hold do. do.	2 1/2 Inmel & R. Pine	2 1/2 Inmel & R. Pine	2 1/2 Inmel & R. Pine	2 1/2 Inmel & R. Pine				
" Side Intercoastal Plate	10	10	Main piece of Rudder, diameter at head	9 1/2	9 1/2	9 1/2	9 1/2				
" do. Angle Irons	6 1/2 x 4 1/2	6 1/2 x 4 1/2	do. at heel	4 3/4	4 3/4	4 3/4	4 3/4				
" Attached to outside plating with angle iron	4 x 3 1/2	4 x 3 1/2	Can the Rudder be unshipped afloat?	yes	yes	yes	yes				
BILGE Angle Irons	6 1/2 x 4 1/2	6 1/2 x 4 1/2	Bulkheads No. 7 No. per Rule	5	5	5	5				
" do. Bulb Iron, plate	16 x 14	16 x 14	" Thickness of	4 1/2	4 1/2	4 1/2	4 1/2				
" do. Intercoastal plates riveted to plating for 3/4 length	4 x 3 1/2	4 x 3 1/2	" Height up	4 to top of 2 ^d and 3 to main deck	4 to top of 2 ^d and 3 to main deck	4 to top of 2 ^d and 3 to main deck	4 to top of 2 ^d and 3 to main deck				
BILGE STRINGER Angle Irons	6 1/2 x 4 1/2	6 1/2 x 4 1/2	" How secured to sides of ship	Between double frames	Between double frames	Between double frames	Between double frames				
Intercoastal plates riveted to plating for 3/4 length	10	10	" Size of Vertical Angle Irons	4 x 3 1/2 x 8 and distance apart 30 ins.	4 x 3 1/2 x 8 and distance apart 30 ins.	4 x 3 1/2 x 8 and distance apart 30 ins.	4 x 3 1/2 x 8 and distance apart 30 ins.				
SIDE STRINGER Angle Irons			" Are the outside Plates doubled two spaces of Frames in length?	yes	yes	yes	yes				

The FRAMES extend in one length from *Keel* to *gunwale* Riveted through plates with *7/8* in. Rivets, about *6*" apart.

The REVERSED ANGLE IRONS on floors and frames extend *across* middle line to *gunwale for half length* and to *top of main deck* 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 1/4* in. diameter, averaging *6* ins. from centre to centre.

" Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets *1 1/4* in. diameter, averaging *3 1/2* ins. from centre to centre.
 " Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets *1 1/4* in. diameter averaging *3 1/2* ins. from centre to centre.
 " Butts of *doubled* Strakes at Bilge for *entire* length, treble riveted with Butt Straps *no* thicker than the plates they connect.
 " Edges from Bilge to Main Sheerstrake, worked clencher, double or single riveted; with rivets *1 1/4* in. diameter, averaging *3 1/2* ins. from cr. to cr.
 " Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets *1 1/4* 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 *entire* length amidships. Butts of Upper or Spar Sheerstrake, treble riveted, *double both strakes* length amidships.
 " Butts of Main Stringer Plate, treble riveted for *1/2* length amidships. Butts of Upper or Spar Stringer Plate, treble riveted for *half* length.
 " Breadth of laps of plating in double riveting *5 1/2* Breadth of laps of plating in single riveting *-*

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? *treble & double* No. of Breasthooks, *5* Crutches, *5* deep floors

What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? *Best*

Manufacturer's name or trade mark, *James, Roy, bars & Beams, Stockton, Moll. Iron Co.; Floors, Corsett; Shell plating & deck*

The above is a correct description.

Builder's Signature, *J. Workman director* Surveyor's Signature, *W. Scullark* Surveyor to Lloyd's Register of British and Foreign Shipping.

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? *very few*

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, made of riveting, quality of Materials, and if stamped with Maker's name.

State also Length and Diameter of Lower Masts and Bowsprit *Fitted with four masts as auxiliary to the steam power.*

Fore Mast of Iron *94. 10 x 30 diam.* 3 plates in the round *7/16 to 9/16* and 3 angles *3 1/2 x 3 x 7/16*

Main Mast - " - *99. 0 x 30 - "* " " " " " "

Mizen Mast - " - *79. 2 x 27 - "* 3 plates in the round *7/16 to 9/16* and 3 angles *3 x 3 x 9/16*

Jigger Mast of P. pine *64. 9 x 22 diam.*

NUMBER for EQUIPMENT *42816*

N ^o .	SAILS.	CABLES, &c.	Fathoms.	Inches.	Test per Certificate.	Inches per Rule.	Machine where Tested & Supntd.	ANCHORS.	N ^o .	Weight. Ex. Stock.	Test per Certificate.	W'ght req'd per Rule.	Machine where Tested & Supntd.
		Chain	<i>150</i>	<i>2 1/2</i>	<i>113.15.0</i>	<i>300 x 2 1/2</i>	<i>3 May 82</i>	Bower Anchors	<i>1</i>	<i>42.3.0</i>	<i>37.13.3.0</i>	<i>4 1/2</i>	<i>3 May 82</i>
	Fore Sails,	(State Machine where Tested, Date, or No. of Certificate, & Name of Superintendent.)	<i>150</i>	<i>2 1/2</i>	<i>113.15.0</i>	<i>300 x 2 1/2</i>	<i>6 - - -</i>		<i>1</i>	<i>10.1.9</i>			
	Fore Top Sails,	Iron Stream Chain	<i>90-2</i>	<i>1 1/4</i>	<i>37.10.0.0</i>	<i>90 x 1 1/4</i>	<i>4 - - -</i>		<i>1</i>	<i>42.0.2</i>	<i>37.4.1.14</i>	<i>4 1/2</i>	<i>6 - - -</i>
		or Steel Wire ..			<i>11.0.1</i>				<i>1</i>	<i>40.2.0</i>	<i>36.2.2.0</i>	<i>40 1/2</i>	<i>6 - - -</i>
	Fore Topmast Stay Sails,	or Hempen Strm Cable			<i>11.0.1</i>		<i>Retheston</i>		<i>1</i>	<i>36.0.4</i>	<i>34.4.0.4</i>	<i>36 1/4</i>	<i>5 - - -</i>
		Towline, Hemp.	<i>120</i>	<i>4 1/2</i>	<i>13.15.0.0</i>	<i>120 x 13</i>	<i>D. G. Lewis Sup.</i>		<i>1</i>	<i>9.0.25</i>			
	Main Sails,	or Steel Wire ..			<i>13.15.0.0</i>			Stream Anchor	<i>1</i>	<i>12.2.16</i>	<i>14.10.2.14</i>	<i>12 3/4</i>	<i>5 - - -</i>
		Hawser	<i>120</i>	<i>3</i>	<i>72.15.0.0</i>	<i>90 x 11</i>			<i>1</i>	<i>2.2.23</i>			
	Main Top Sails,	Warp	<i>90</i>	<i>9 1/2</i>	<i>13.15.0.0</i>	<i>90 x 9</i>		Kedge	<i>1</i>	<i>6.2.16</i>	<i>9.0.0.0</i>	<i>6 1/2</i>	<i>9 - - -</i>
	and Spare Sails	quality <i>good</i>	<i>90</i>	<i>9 1/2</i>	<i>13.15.0.0</i>	<i>90 x 9</i>		2nd Kedge	<i>1</i>	<i>3.1.25</i>	<i>5.18.3.0</i>	<i>3 1/4</i>	<i>5 - - -</i>

Standing and Running Rigging *Wire & Hemp* sufficient in size and *good* in quality. She has *Two* Life Boats and *four* others

The Windlass is *Patent & Good* Capstan *Good* and Rudder *Good* Pumps *Good*

Engine Room Skylights. How constructed? *of iron on Iron Comings 2 1/2* How secured in ordinary weather? *Screw bolts & nuts*

What arrangements for deadlights in bad weather? *Gratings and tarpaulins*

Coal Bunker Openings. How constructed? *Cast iron* How are lids secured? *Bayonet fixing* Height above deck? *4 1/2*

Scuppers, &c. What arrangements for clearing upper deck of water, in case of shipping a sea? *Eight scuppers on each side*

Cargo Hatchways. How formed? *Iron plate and angles - Comings 10 above deck*

State size Main Hatch *12.0 x 10.0* Forehatch *12 x 8 1/2 - 20 x 12* Quarterhatch *4 x 8, 12 x 10*

If of extraordinary size, state how framed and secured? *Web plate in large hatch; Shifting beams and fore and after in all hatches.*

What arrangement for shifting beams? *in all hatches.*

Hatches, If strong and efficient? *Yes solid*

Order for Special Survey No. *102*

Date *Feb 7 1881*

Order for Ordinary Survey No. *7*

Date *Feb 7 1881*

No. *7* in builder's yard.

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 *Jan: 27 - Feb 4 - 7 - 10 - 17 - 21 March 9 - 10 - April 5 - 11 - 15 - 20 - 27*
- 2nd. On the plating during the process of riveting *May 6 - 17 - 27 June 3 - 7 - 17 - 21 - 24 July 4 - 18 - 21 Aug 2 - 11 - 23 - Sep: 2*
- 3rd. When the beams were in and fastened, and before the decks were laid.... *8 - 15 - 22 - 26, Oct 1 - 5 - 11 - 20 - 24. Nov 2 - 7 - 11 - 17 - 21 - 22. Dec 1 - 8 - 19 - 22*
- 4th. When the ship was complete, and before the plating was finally coated or cemented... *Jan: 4, 9, 12, 18, 24, 30; Feb 3, 8, 20, 24, 28; Mar 3, 7, 10, 14, 17, 22, 28; April 5, 12, 18, 21, 26; May 2, 4, 10, 16, 23, 27, 30; June 6, 9, 13, 20, 23, 27; July 5, 10, 17, 19, 25, 29; Aug 1, 4, 8, 9, 14, 15, 17, 18, 23, 26, 30; Sep 1, 5, 9, 12, 27, 29; Oct 4, 5.*
- 5th. After the ship was launched and equipped

General Remarks (State quality of workmanship, &c.)

This vessel has been built in accordance with the accompanying tracings, viz. Midship section, Sections in way of En. & B^o space, and pumping arrangement, also with the Secretary's letters 1st Jan^y, 1st July, 23rd March, & 4th April. 81, and 9th May. 81. And in conformity with the rules generally. She is a three decked vessel with a Forecastle (not enclosed) *34.0*; Saloon deck house *78.0 x 31.0*, houses at side of Engine and Boiler hatches *76.0*; Bridge deck over Saloon and En. & B^o hatch *156.0*; Wheel house aft *23.0 x 12.0*; and wheel house on Top of Bridge deck.

The masts are doubled at the partners, the butt straps are fitted outside to thicker, and Treble riveted above partners, landings double riveted. The plates were stamped with Maker's name, and tested as required by the Rules. The workmanship and materials are good.

The openings over engines and boilers, the pumps, rigging sails and steering gear, and all deck fittings have been satisfactorily completed at Glasgow. G. Stanbury.

State if one, two, or three decked vessel, or if span, or running decked; and the lengths of poop, bridge, forecastle, or raised quarter deck. (If double bottom, state particulars on separate form.)

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

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

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

Special ... £ *119* : *14* : - *19.12.1882*

Certificate ... *Gratis* : :

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

Committee's Minute *London Nov 29th 1882*

Character assigned *TRW 100 A 1*

+ 100 A 1

3 Mts. 2 Brns

3 Mts. 2 Brns

Surveyor to Lloyd's Register of British and Foreign Shipping.

This vessel appears to be

to be classed *100 A 1* as

recommended

3 Mts. 2 Brns

3 Mts. 2 Brns

3 Mts. 2 Brns

3 Mts. 2 Brns

3 Mts. 2 Brns

3 Mts. 2 Brns