

IRON SHIP.

No. 2270 Survey held at Belfast Date, First Survey 1st Nov. 1873 Last Survey 28th Oct 1874

On the Iron Ship "Belfast" Yard-Number 87 Master Jully Built at Belfast

TONNAGE under Tonnage Deck 1752.06

Ditto of Third, Spar, or Awning Deck 131.28

Ditto of Poop, or Main Deck 8.10

Ditto of Forecastle 65.85

Gross Tonnage 1957.29

Less Crew Space 92.74

Register Tonnage 1864.55

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

HALF BREADTH (moulded) 20.0

DEPTH from upper part of Keel to top of Upper Deck Beams 26.83

GIRTH of Half Midship Frame (as per Rule) 40.57

1st NUMBER 87.40

1st NUMBER, if a THREE-DECKED VESSEL deduct 7 feet 262.0

LENGTH 228.98

2nd NUMBER 6.56

PROPORTIONS—Breadths to Length 9.76

Depths to Length—Upper Deck to Keel 9.76

Main Deck ditto 9.76

When built 1874 Launched 15 Aug 74

By whom built Harland & Wolff

Owners J. J. Brocklebank

Port belonging to Liverpool

Destined Voyage Melbourne

Surveyed while Building, Afloat, or in Dry Dock.

LENGTH on deck as per Rule 262 Breadth Moulded 40 DEPTH top of Floors to Upper Deck Beams 24 Power of Engines 6 No. of Decks with flat laid Two No. of Tiers of Beams Two

Dimensions of Ship per Register, length, 262.5 breadth, 40.2 depth, 24.25

KEEL, depth and thickness 9 x 3
STEM, moulding and thickness 9 x 3
STERN-POST for Rudder do. do. 8 1/2 x 3 1/4
Distance of Frames from moulding edge to moulding edge, all fore and aft 24"

FRAMES, Angle Iron, for 2/3 length amidships 5 x 3 1/2
Do. for 1/3 at each end 5 x 3 1/2
REVERSED FRAMES, Angle Iron 3 1/2 x 3 1/2
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships 28 x 10/16
thickness at the ends of vessel 13
depth at 3/4 the half-bdth. as per Rule 13
height extended at the Bilges 53

BEAMS, Upper, Spar, or Awning Deck Single or double Angle Iron, Plate or Tee Bulb Iron 9 x 9/16
Single or double Angle Iron on Upper edge 48"

BEAMS, Main or Middle Deck Single or double Angle Iron, Plate or Tee Bulb Iron 10 x 10/16
Single, or double Angle Iron, on Upper Edge 48"

BEAMS, Lower Deck, Hold or Orlop Single or double Angle Iron, Plate or Tee Bulb Iron 10 x 10/16
Single or double Angle Iron on Upper Edge 48"

KEELSONS Centre line, single or double plate, box, or Intercoastal, Plates 22 x 13/16
Rider Plate 13 x 10/16
Bulb Plate to Intercoastal Keelson 6 x 4
Angle Irons 6 x 4
Double Angle Iron Side Keelson 6 x 4
Side Intercoastal Plate (Wash plates) 7/16 thick
do. Angle Irons 6 x 4
Attached to outside plating with angle iron 6 x 4

BILGE Angle Irons 6 x 4
do. Bulb Iron 6 x 4
do. Intercoastal plates riveted to plating for length 6 x 4

BILGE STRINGER Angle Irons 6 x 4
Intercoastal plates riveted to plating for length 6 x 4

SIDE STRINGER Angle Irons 6 x 4
Plate 6 x 4

Transoms, material. Knight-heads. Hawse Timbers.

Windlass Greenheart with Pall Bitt
through Spindle 3

The FRAMES extend in one length from Middle line to up 5th Stringer and Main Rail alternately

The REVERSED ANGLE IRONS on floors and frames extend from about middle line to upper deck Stringer and to Lower 5th Stringer 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 1/8 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 3/4 ins. from centre to centre.

Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 7/8 in. diameter averaging 3 3/4 ins. from centre to centre.

Butts of 3 Strakes at Bilge for half 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 3/4 ins. from cr. to cr.

Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 7/8 in. diameter, averaging 3 3/4 ins. from cr. to cr.

Edges of Main Sheerstrake, double or single riveted. Upper Sheerstrake, double or single riveted. in lower edge.

Plat Keel Plates, breadth and thickness 36 12 36 12

PLATES in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges 11 10 11

of doubling at Bilge, or increased thickness, and length applied, 3 Strakes 1/2 length 11 12 11 12

fm up. part of Bilge to edge of Sh'rstrake Main Sheerstrake, breadth and thickness of doubling at Sh'rstrake, & length applied 11 x 12 11 12 11 12

from Main to Upper or Spar Dk Sh'rstrake. Up. or Spar Dk Sh'rstrake, brdth & thickness 40 13 40 13

Butt Straps to outside plating, breadth & thickness 12 1/2 11 12 11 12

Lengths of Plating 12 feet 10 feet 12 feet 10 feet

Shifts of Plating, and Stringers 4 feet 4 feet 4 feet 4 feet

Gunwale Plate on ends of Awning Spar Upper Deck Beams, breadth and thickness 48 11 52 10

Angle Iron on ditto 5 x 5 x 9 6 x 4 x 9 12 10 12 10

Tie Plates fore and aft, outside Hatchways Diagonal Tie Plates on Beams No. of Pairs, five

Planksheer material and scantling Gutter waterway Waterways do. do. 4 P. 4 4

Flat of Upper Deck do. do. 4 P. 4 4

How fastened to Beams Guts. Screws & nut bolts Stringer Plate on ends of Main or Middle Deck Beams, breadth and thickness 33 9 33 9

Is the Stringer Plate attached to the outside plating? Yes Angle Irons on ditto, No. 2 4 x 4 x 9 4 x 4 x 9

Tie Plates, outside Hatchways 5 1/2 x 3 x 9 5 1/2 x 3 x 9

Diagonal Tie Plates on Beams, No. of pairs 3 3 3 3

Waterways materials and scantlings 3 1/2 3 1/2 3 1/2 3 1/2

Flat of Middle Deck do. do. 4 P. 4 4

How fastened to Beams Batten & pins Stringer Plates on ends of Lower Deck, Hold or Orlop Beams 33 9 33 9

Is the Stringer Plate attached to the outside plating? Yes Angle Irons on ditto, No. 2 4 x 4 x 9 4 x 4 x 9

Stringer or Tie Plates, outside Hatchways 5 1/2 x 3 x 9 5 1/2 x 3 x 9

Flat of Lower Deck 4 P. 4 4

Ceiling betwixt Decks, thickness and material 2 1/2 2 1/2 2 1/2 2 1/2

in hold do. (Res Pine) 2 1/2 2 1/2

Main piece of Rudder, diameter at head 3 1/2 3 1/2 3 1/2 3 1/2

do. at heel 3 1/2 3 1/2 3 1/2 3 1/2

Can the Rudder be unshipped afloat? Yes Bulkheads No. 3 Thickness of 7/16 7/16 7/16 7/16

Height up to upper deck Between double frames How secured to sides of ship Between double frames

Size of Vertical Angle Irons 4 1/2 x 3 x 8/16 and distance apart 30 ins. Are the outside Plates doubled two spaces of Frames in length? Yes

Riveted through plates with 7/8 in. Rivets, about 7 apart.

The REVERSED ANGLE IRONS on floors and frames extend from about middle line to upper deck Stringer and to Lower 5th Stringer 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 1/8 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 3/4 ins. from centre to centre.

Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 7/8 in. diameter averaging 3 3/4 ins. from centre to centre.

Butts of 3 Strakes at Bilge for half 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 3/4 ins. from cr. to cr.

Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 7/8 in. diameter, averaging 3 3/4 ins. from cr. to cr.

Edges of Main Sheerstrake, double or single riveted. Upper Sheerstrake, double or single riveted. in lower edge.

Butts of Main Sheerstrake, treble riveted for half length amidships. Butts of Upper or Spar Sheerstrake, treble riveted half length amidships.

Butts of Main Stringer Plate, treble riveted for half 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 3

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

Waterway, how secured to Beams Gutter Waterway (Explain by Sketch, if necessary.)

Beams of the various Decks, how secured to the sides? Knees turned down & riveted No. of Breasthooks, 5 Crutches, 4

What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Brams & Angles "Mossend" & "Blackburn"

Manufacturer's name or trade mark, "Mossend" & "Blackburn" Plates: W. C. & J. Haematite Co. Ltd.

The above is a correct description.

Builder's Signature, Harland & Wolff Surveyor's Signature, J. J. Brocklebank

(22/5/73).

IRON 459-0014

13403

Workmanship. Are the butts of plating planed or otherwise fitted? Hammered.
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 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 Fore Mast, 92' x 32" (dia). Plating 7/16" x 3/8", Angles 4" x 3/4"; Main 93' x 32" (dia); Mizzen 88' x 28" - plates 3/8" x 5/16", Angles 3 1/2" x 3 7/16"; Bowsprit 42' x 30" - plates 3/8", Angles 3 1/2" x 3 7/16". All constructed of 3 plates and 3 Angles, lands single riveted, Butts quadruple, treble and double. The Straps are fitted on the outside. Fore Main lower Yards 93' x 20 1/2" - plates 3/8", 5/16" x 1/4". Angles 3 1/2" x 3 7/16"; Cross Jack Yard 74' x 18" - plates 1/2" x 3/8". Angles 3 1/2" x 5/16". Lower Topsail Yard, 83' x 18 1/4" - plates 5/16" x 1/4". Angles 3 1/2" x 5/16". Built of 3 plates & 3 Angles: lands single riveted; Butts treble & double.

NUMBER for EQUIPMENT		regulated by Tonnage	Fathoms.	Inches.	Test per Certificate	Length & Size req'd per Rule	Test req'd per Rule	ANCHORS, & Bowsprit	Nº.	Weight. Ex. Stock.	Test per Certificate	Weight req'd per Rule.	Test req'd per Rule.
Nº.	SAILS.	CABLES, &c.											
	Fore Sails,	Chain	300	2"	72 Tons	100% Breaking	72			38.2.14	34 7/20	38.0.0	34 19/20
	Fore Top Sails,	(State Machine where Tested, Date, & name of Superintendent.)								38.0.12	34 7/20	38.0.0	34 19/20
	Fore Topmast Stay Sails	Hmpn Strm Cbl	90	13"						33.1.8	31 7/20	32.1.0	30 10/20
	Main Sails,	Hawser	90	7"									
	Main Top Sails,	Towlines	180	6"									
	and	Warp	90	5"									
		quality <u>good</u>											

Standing and Running Rigging Wire & Hemp sufficient in size and good in quality. She has Two Lifeboats and Two others. The Windlass is good Capstan good and Rudder good. Pumps Efficient with Connection to Main.

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

Coal Bunker Openings. How constructed? How are lids secured? Height above deck? 6

Scuppers, &c. - What arrangements for clearing upper deck of water, in case of shipping a sea? 6 Scuppers and 5 large Ports on each side - also a port cut in upper part of sheerstrake each side 40" x 8" or front of poop.

Cargo Hatchways. - How formed? Iron plates and angle irons

State size Main Hatch 20 ft x 11 ft. Forehatch 8 ft x 7 ft 6 in. Quarterhatch 8 ft x 7 ft 6 in.

If of extraordinary size, state how framed and secured? The Main Hatch is reduced 8 ft at the fore end -

What arrangement for shifting beams? One portable beam and one fore-and-aft Beam

Hatches, If strong and efficient? Yes

Order for Special Survey No. <u>46</u>	1st. On the several parts of the frame, when in place, and before the plating was wrought	(1873) Nov 7, 1 st 10 th , 12 th , 14 th , 18 th , 24 th , 28 th
Date <u>30. Sept. 1873</u>	2nd. On the plating during the process of riveting	Dec. 6 th , 9 th , 12 th , 16 th , 18 th by Mr. Williamson, - also -
Order for Ordinary Survey No. <u>87</u>	3rd. When the beams were in and fastened, and before the decks were laid...	Dec. 22, 29, 31; (1874) Jan. 8, 10, 13, 20, 24, 27, 31; Feb. 7, 24, 7, 10, 12, 16, 20
Date <u>1874</u>	4th. When the ship was complete, and before the plating was finally coated or cemented...	26, 28; March, 5, 9, 12, 17, 21, 23, 27, 30; April 29, 15, 20, 22, 25, 28;
No. <u>87</u> in builder's yard.	5th. After the ship was launched and equipped	May 26, 11, 13, 16, 20, 26, 30; June 4, 6, 11, 15, 19, 22, 24; July 13, 17, 10, 15, 20, 25, 30; Aug. 4, 6, 11, 15, 22, 25, 28; Sept. 1, 7, 11, 16, 20, 25, 28; Oct. 5, 10, 12, 13, and 16, 22, 26, 28.

General Remarks, (State quality of workmanship &c.) This two decked Vessel has been built under Special Survey, in accordance with the accompanying approved Sketch of Midship Section, (with an additional Strake of Shell plating introduced), and in other respects - with the Rules for the 100A class with the exception that the Butts of Shell plating, arranged "Brick fashion", i.e. with one plate between consecutive butts in the same frame space.

This arrangement, received the sanction of the Committee in consideration of the Butts of all the outside strakes of plating being treble riveted: - (See Secretary's Letter of 18th May 1874).

The Butts of lower deck stringer are also treble riveted for half the length of the vessel.

Every other frame runs up thro' upper deck stringer to rough tree rail, & the outer gutter angle iron is 5" x 5" x 9/16"; the space between this and gunwale angle iron, as well as gutter waterway, efficiently cemented.

The Equipment has, at the Builders' request, and with the Owners' concurrence, been allowed by the Committee to be regulated by the Gross Register Tonnage instead of by the Equipment Number as per Section 39 of the Rules. - (See Secretary's letter of 21st June 1874)

The material and Workmanship in this vessel are of a very superior description, and she is efficiently cemented, the cement being carried up several inches above close ceiling.

A Bull iron 8" x 1/2" is riveted between the side stringer angle irons in fore hold for 32 feet, in lieu of Panting Beams (as in "Star of Bengal"). Considering the form of the Bow, and arrangement of stringers - four on each side, and hook plates - the arrangement may, it is considered, be deemed sufficient in this vessel.

On the completion of the vessel, a hole 40' x 8" has been cut in the sheerstrake above the deck at front of poop, on each side for clearing the deck of water in case of shipping a sea. The Builders were requested to fit compensation for the reduction of sectional area in the sheerstrake plate - as required by the Rules (Section 32) - and it was suggested to double the Strake below the hole for 10 or 12 feet - the hole being within 3/5th the length of the vessel. The Builders do so, however, and the vessel left for Liverpool, without the compensation being made.

State if one, two or three decked vessel, as if spar or arming deck, and lengths of poop, forecastle, main quarter deck, or of double or part double bottom. 54 feet, 3 41 feet

How are the surfaces preserved from oxidation? Inside Cement and Paint Outside Paint (patent)

Is of opinion this Vessel should be Classed * 100A.1. and at same time beg to refer to the remarks with reference to the compensation for hole in sheerstrake plate.

The amount of the Entry Fee ... £ 5 : 0 : 0 is received by me, J.M.M.

Special ... £ 73 : 18 : 6 14 Oct. 1874

Certificate ... gratis

(Travelling Expenses) (if any) 0

Committee's Minute Nov 12 1874

Character assigned 100A.1.

A.C.P. Cem 174 - 2 decks

The vessel is fitted with boiler and steam winch with connection from same to work pumps and windlass

