

IRON SHIP (20813)

No. 11938 Survey held at Sunderland Date, First Survey November 20 1877 Last Survey April 30 1878
On the "Effective" Yard No. 86 Master D. Cumming

TONNAGE under 1742.41
Tonnage Deck 15.18
Tonnage of Poop 58.14
Tonnage of Houses on Deck 92.04
Ditto of Forecastle 38.34
Gross Tonnage 1936.11
Less Crew Space 52.37
Less Engine Room 1883.74
Register Tonnage 619.56
as out on Beam 1264.18

ONE, OR TWO DECKED, THREE DECKED VESSEL.
SPAR, OR AWNING DECKED VESSEL.
HALF BREADTH (moulded) 17.37
DEPTH from upper part of Keel to top of Upper Deck Beams 26.20
GIRTH of Half Midship Frame (as per Rule) 39.25
1st NUMBER 22.83
1st NUMBER, if a THREE-DECKED VESSEL 7.00
LENGTH 273.50
2nd NUMBER 20740
PROPORTIONS—Breadths to Length under 8.92
Depths to Length—Upper Deck to Keel under 11.11
Main Deck ditto 15.11

Built at Pallion, Sunderland
When built 1878. Launched 30/3/78
By whom built Short Brothers
Owners Anderson, Moran & Co
Port belonging to Sunderland
Destined Voyage Matta
Surveyed while Building, Afloat, or in Dry Dock.

LENGTH on deck as per Rule 273 5 BREADTH—Moulded 34 9 DEPTH top of Floors to Upper Deck Beams 24 2 1/2 Power of Engines 180 No. of Decks with flat laid 3 No. of Tiers of Beams 3

	Inches in Ship.	Inches per Rule.		Inches in Ship.	Inches per Rule.
depth and thickness	9 1/2 x 2 1/2	9 1/2 x 2 1/2	Flat Keel Plates, breadth and thickness	36	12
AM, moulding and thickness	9 x 2 1/2	9 x 2 1/2	PLATES in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges of doubling at Bilge, or increased thickness, and length applied	10.11	10.11
STERN-POST for Rudder do. do. for Propeller	9 x 5	9 x 5	fm up. part of Bilge to l. edge of Sh'rstrake	10.11	10.11
Distance of Frames from moulding edge to moulding edge, all fore and aft	24	24	Main Sheerstrake, breadth and thickness of d'bling at Sh'rstrake, & length applied from Mn. to Up. or Spar Dk. Sh'rstrake.	40	13
FRAMES, Angle Iron, for 2/3 length amidships Do. for 1/3 at each end	5 3 8	5 3 8	Up. or Spar Dk Sh'rstrake, breadth & thickness		
REVERSED FRAMES, Angle Iron	3 3 7	3 3 7	Butt Straps to outside plating, breadth & thickness	9 1/2 x 16 3/4	8 1/2 x 16 3/4
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.	23 1/2 9.10 8.7	23 1/2 9.10 8.7	Lengths of Plating	five spaces of frames	
BEAMS, Upper, Spar, or Awning Deck Single or double Ang. Iron, Plate or Tee Bulb Iron Angle or double Angle Iron on Upper edge Average space.	5 1/2 3 8 24	5 1/2 3 8 24	Shifts of Plating, and Stringers	two and three	22 22
AMS, Main, or Middle Deck Single or double Ang. Iron, Plate or Tee Bulb Iron Angle, or double Angle Iron, on Upper Edge Average space.	6 3 8 24	6 3 8 24	Gunwale Plate on ends of Awning Spar, or Upper Deck Beams, breadth and thickness.	39	9
BEAMS, Lower Deck, Hold, or Orlop Single or double Ang. Iron, Plate or Tee Bulb Iron Angle or double Angle Iron on Upper Edge Average space.	4 3 8 24	4 3 8 24	Angle Iron on ditto	4.4.9	4.4.9
KEELSONS Centre line, single or double plate, or Intercoastal, Plates Rider Plate Bulb Plate to Intercoastal Keelson Angle Irons Double Angle Iron Side Keelson Side Intercoastal Plate do. Angle Irons Attached to outside plating with angle iron	18 13 12 13 5 1/2 4 9 5 1/2 4 9 3 3 7	18 13 12 13 5 1/2 4 9 5 1/2 4 9 3 3 7	Tie Plates fore and aft, outside Hatchways Diagonal Tie Plates on Beams No. of Pairs, 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?	39 10 37 10	39 10 37 10
BILGE Angle Irons do. Bulb Iron do. Intercoastal plates riveted to plating for length	5 1/2 4 9 8 1/2 8	5 1/2 4 9 8 1/2 8	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?	4.4.9 4.4.9	4.4.9 4.4.9
BILGE STRINGER Angle Irons Intercoastal plates riveted to plating for length	5 1/2 4 9 8	5 1/2 4 9 8	Angle Irons on ditto, No. Tie Plates, outside Hatchways 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? Bulkheads No. Thickness of Height up to Upper Deck, one to Middle Deck, after touches I Platform How secured to sides of ship Size of Vertical Angle Irons and distance apart Are the outside Plates doubled two spaces of Frames in length?	4.4.9 5 1/2.4.9	4.4.9 5 1/2.4.9
IDE STRINGER Angle Irons					

Transoms, material. Knight-heads. Hawse Timbers. Iron plates for
Windlass Emerson & Walker Pallion Secured to plates for
The FRAMES extend in one length from Keel to Gunwale Riveted through plates with 7/8 in. Rivets, about 7 in. apart.
The REVERSED ANGLE IRONS on floors and frames extend from middle line to Middle Dk St angle and to Gunwale alternately
EELSONS. Are the various lengths of Plates and Angle Irons properly connected? Yes And butts properly shifted? Yes
LATING. 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 7/8 ins. from centre to centre.
Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 7/8 in. diameter averaging 3 7/8 ins. from centre to centre.
Butts of three Strakes at Bilge for half length, treble riveted with Butt Straps 1 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 7/8 ins. from cr. to cr.
Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 7/8 in. diameter, averaging 3 7/8 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 half length.
Breadth of laps of plating in double riveting 5 1/4 Breadth of laps of plating in single riveting Nil
at Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? Double and treble riveted.
Waterway, how secured to Beams Nil (Explain by Sketch, if necessary.)
Beams of the various Decks, how secured to the sides Angle Brackets knees Bulk Dk ends turned down No. of Breasthooks, Six Crutches, three
That description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.?
Manufacturer's name or trade mark, Anglo Bulb, Tyzack & Stockton Malleable. Plates. Stockton Malleable. Rolokon, Bayham & Sons
Is above a correct description?
Signature, J. D. D. Surveyor's Signature, Joseph Keen
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? *at the butts in a few cases only*

Masts, Bowsprit, Yards, &c., are *of Iron* 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 sketch attached*
to Mast plate 9/16" thick and 3" wide bent cold with grain about 140°
Do Do Do across grain 85° and also
see letter 8th March 78. Referring to masts

NUMBER for EQUIPMENT		24,919	Fathoms.	Inches.	Test per Certificate.	Length & Size req'd per Rule.	Test req'd per Rule.	ANCHORS.	No.	Weight. Ex. Stock.	Test per Certificate.	W'ght req'd per Rule.	Test req'd per Rule.
SAILS.								Bowers	1	33.0.14	30.19.1.24	32.0.0	30 1/10
Fore Sails,									1	32.3.0	30.13.3.0	32.0.0	30 1/10
Fore Top Sails,									1	27.3.0	26.18.3.0	27.1.0	26 1/2
Fore Topmast Stay Sails													
Main Sails,													
Main Top Sails,													
and													

Standing and Running Rigging *SI. H and Rope* sufficient in size and *good* in quality. She has *2 Life Long Boats* and *2 others*
The Windlass is *Emerson & Walker's* *good* *Capstan* *4* *Winches* and Rudder *good* Pumps *5* *Hand* in addition to *Steam*
Engine Room Skylights.—How constructed? *Iron Coamings Wood S.* How secured in ordinary weather? *hand screws*
What arrangements for deadlights in bad weather? *Solid Shutters fitted with Bulls Eyes*
Coal Bunker Openings.—How constructed? *Iron Coamings* How are lids secured? *Hatch Bars* Height above deck? *9" 12" 33"*
Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? *Scuppers and Ports fitted in the Bulwarks*
Cargo Hatchways.—How formed? *Iron plates fitted in the usual manner*
State size Main Hatch *20 ft by 12 ft* Forehatch *12 ft by 10 ft* Quarterhatches *20 ft by 12 ft & 16 ft x 12 ft*
If of extraordinary size, state how framed and secured? *Beams and Web plate Beams, also Single, and in*
What arrangement for shifting beams? *Some cases double fore and aft Carlings all shifting*
Hatches, If strong and efficient? *Solid and efficient*

Order for Special Survey No. <i>2492</i>	1st. On the several parts of the frame, when in place, and before the plating was wrought	<i>Built under J.P. and launched 1877 Nov. 20 26 Dec. 13</i>
Date <i>14 Dec 77</i>	2nd. On the plating during the process of riveting	<i>57 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 Jan. 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30</i>
Order for Ordinary Survey No. <i>2492</i>	3rd. When the beams were in and fastened, and before the decks were laid....	<i>Feb 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 March 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30</i>
Date <i>14 Dec 77</i>	4th. When the ship was complete, and before the plating was finally coated or cemented..	<i>April 1 2 3 4 5 6 7 8 9 10 11 12</i>
No. <i>86</i> in builder's yard.	5th. After the ship was launched and equipped	

General Remarks (State quality of workmanship, &c.) *Good.* See Letter 14th Nov 1877.
This Vessel has a Topgallant Forecastle 30 ft long a Bridge House 49 ft long, and a Full Poop 20 ft long.
The Conditions contained in the above mention letter are fully complied with and the Owners Sanction obtained agreeing to the same
She has two Water Ballast Tanks that in the fore Hold is 50 feet long, that in the after Hold is 92 feet long; instead of fitting three fore and aft Girders as shown in the Section there are four in the Main body of the Vessel; throughout the Tanks there are about 2 ft 10 in apart and none fitted transversely, each Tank has been pressed with a head of Water up to the upper Deck and proved very efficient.

State if one, two, or three, decked vessel, or if open, or running decked, and the lengths of poop, Forecastle, raised quarter deck, and the length of double, or part double bottom
How are the surfaces preserved from oxidation? Inside *Cement to Bilges painted ab* Outside *Dunnets Comps on Bottom*
I am of opinion this Vessel should be Classed *100 A. 1. Three Decked.*

The amount of the Entry Fee ... £ 5 : 0 : 0 is received by me, *HN*
Special ... £ 72 : 2 : 0 *20 April 1878*
Certificate ... *Wanted*
(Travelling Expenses, if any, £ *✓*).
Committee's Minute *3rd May 1878*
Character assigned *100 A*
Log 100 200 300 400 500 600 700 800 900 1000
2 1/2 Dks 3 1/2 Dks 4 1/2 Dks 5 1/2 Dks 6 1/2 Dks 7 1/2 Dks 8 1/2 Dks 9 1/2 Dks 10 1/2 Dks
Don't Bottom 14 1/2 ft 3 1/2 ft

See above
Joseph Keen
This vessel has been built in accor with the approved tracings appended and appears eligible to be classed 100 A as recommended
2 1/2 Dks 3 1/2 Dks 4 1/2 Dks 5 1/2 Dks 6 1/2 Dks 7 1/2 Dks 8 1/2 Dks 9 1/2 Dks 10 1/2 Dks
Don't Bottom 14 1/2 ft 3 1/2 ft