

IRON SHIP. 183 2/3

No. 11660 Survey held at Sunderland Date, First Survey January 4th Last Survey May 12th 1877
On the Sea Sr "Ferndale." Yard No 225. Master B Whayman

TONNAGE under Tonnage Deck } 761.65
Ditto of Third, Spar, }
Hatchway Deck } 39.14
Ditto of Hoop, and }
Raised Qr. Dk. } 53.58
Ditto of House } 64.81
Ditto of Forecastle } 18.24
Gross Tonnage } 937.42
Less Crew Space } 33.20
Less Engine Room } 299.97
Register Tonnage } 604.25
as cut on Beam }

~~ONE, OR TWO DECKED, THREE DECKED VESSEL.~~
~~SPAR, OR AWNING DECKED VESSEL.~~
HALF BREADTH (moulded)... .. 15.18 Feet.
DEPTH from upper part of Keel to top of Upper Deck Beams: 17.50
GIRTH of Half Midship Frame (as per Rule) ... 29.60
1st NUMBER 62, 28
1st NUMBER, if a THREE-DECKED VESSEL [deduct 7 feet]
LENGTH 210.0
2nd NUMBER 13, 078.
PROPORTIONS—Breadths to Length .. above 6 3/4
Depths to Length—Upper Deck to Keel .. 12-4-
Main Deck ditto

Built at Sunderland
When built 1877. Launched 29th March
By whom built Gas Loring
Owners Messrs Dixon & Wilson
West Sunnyside Sunderland
Port belonging to Sunderland
Destined Voyage Baltic
 Surveyed while Building, Afloat, or in Dry Dock.

LENGTH on deck as per Rule ... 210 0 Feet. Inches. **BREADTH**—Moulded... 15 18 Feet. Inches. **DEPTH** top of Floors to Upper Deck Beams ... 16 0 Feet. Inches. **Power of Engines** ... 95 Horse. **Nº. of Decks with flat laid** ... 3 No. of Tiers of Beams Iron

	Inches in Ship.	Inches per Rule.
KEEL , depth and thickness	8 x 2 3/8	8 x 2 3/8
STEM , moulding and thickness... ..	7 x 2 3/8	7 x 2 3/8
STERN-POST for Rudder do. do.	7 x 4 3/4	7 x 4 3/4
Distance of Frames from moulding edge to moulding edge, all fore and aft	22	22
FRAMES , Angle Iron, for 1/2 length amidships	4 3 7/16	4 3 7/16
Do. for 1/4 at each end	4 3 6	4 3 6
REVERSED FRAMES , Angle Iron	3 3 6	3 3 6
FLOORS , depth and thickness of Floor Plate } at mid-line for half length amidships } 18 9.8		
thickness at the ends of vessel } 7		
depth at 1/2 the half-bdth. as per Rule } 9		
height extended at the Bilges... .. } <u>price amidship depth</u>		
BEAMS, Upper, Spar, or Awning Deck } Single or d'ble Ang. Iron, Plate or Tee Bulb Iron } 5 3 7		
Single or double Angle Iron on Upper edge } <u>on every frame</u>		
BEAMS, Main, or Middle Deck } Single or d'ble Ang. Iron, Plate or Tee Bulb Iron } 4 3 7		
Single, or double Angle Iron, on Upper Edge } Average space... .. } <u>10th frame; under Rod. Dk 8th frame</u>		
BEAMS, Lower Deck, Hold, or Orlop } Single or d'ble Ang. Iron, Plate or Tee Bulb Iron } 8 1/2 8		
Single or double Angle Iron on Upper Edge } 4 3 7/4		
Average space... .. } <u>13 10</u>		
KEELSONS Centre line, single or double plate, } box or intercostal plates } 13 10		
" Rider Plate } 9 3/4 10		
" Bulb Plate to intercostal Keelson } 4 1/2 3 1/2 7		
" Angle Irons } 4 1/2 3 1/2 7		
" Double Angle Iron Side Keelson } 4 1/2 3 1/2 7		
" Side Intercostal Plate } 4 1/2 3 1/2 7		
" do. Angle Irons } 4 1/2 3 1/2 7		
" Attached to outside plating with angle iron } 7 1/2 7		
BILGE Angle Irons } 4 1/2 3 1/2 7		
" do. Bulb Iron... .. } 7 1/2 7		
" do. Intercostal plates riveted to plating for length } 4 1/2 3 1/2 7		
BILGE STRINGER Angle Irons } 4 1/2 3 1/2 7		
Intercostal plates riveted to plating for length. } 4 1/2 3 1/2 7		
SIDE STRINGER Angle Irons } 4 1/2 3 1/2 7		

Flat Keel Plates, breadth and thickness
PLATES in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges of doubling at Bilge, or increased thickness, and length applied 1/2 length } 1 Str 1 15 1/2 1
fm up. part of Bilge to lr. edge of Sh'rstrake } 8 } 8
Main Sheerstrake, breadth and thickness of d'bling at Sh'rstrake, & length applied from Mn. to Upr. or Spar Dk. Sh'rstrake. } 36 11 36 11
Up. or Spar Dk Sh'rstrake, breadth & thickness
Butt Straps to outside plating, breadth & thickness } 9 1/4 . 16 3/4 . 7 . 12 } 9 1/4 . 16 3/4 . 7 . 12
Lengths of Plating } five spaces of frame
Shifts of Plating, and Stringers... .. } Iron plates
Gunwale Plate on ends of ~~Awning Spar~~ } 30 8 44 9
Upper Deck Beams, breadth and thickness... } Lower 21st Deck 76
Angle Iron on ditto } 4 1/2 . 3 1/2 . 7 } 4 1/2 . 3 1/2 . 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. Iron plates } 6 Head 3 1/2
How fastened to Beams } Rivets
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 } 28 8 28 8
Is the Stringer Plate attached to the outside plating? Yes
Angle Irons on ditto, No. three } 3 1/2 . 3 1/2 . 7 } 3 1/2 . 3 1/2 . 7
Stringer or Tie Plates, outside Hatchways } 4 1/2 . 3 1/2 . 7 } 4 1/2 . 3 1/2 . 7
Flat of Lower Deck
Ceiling betwixt Decks, thickness and material
in hold do. do. } 2 1/2 R.P. to Bilge
Main piece of Rudder, diameter at head } 5
do. at heel } 3
Can the Rudder be unshipped afloat? Yes
Bulkheads No. 4 Thickness of 5.6
Height up to Upper Deck except that one has iron plating
How secured to sides of ship between double frames
Size of Vertical Angle Irons 3.3. 7/16 and distance apart 30 ins.
Are the outside Plates doubled two spaces of Frames in length? Yes

Transoms, material. Knight-heads. Hawse Timbers. Iron
Windlass Emerson & Walker Iron Patent Not Secured to Lap Carlings &c
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 from middle line to Gunwale & to above Hold Bth Str Ath Str 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 in. diameter, averaging 5 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 Iron 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~~ 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 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 length
Breadth of laps of plating in double riveting 4 1/2 Breadth of laps of plating in single riveting 2 5/8
Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? Double and treble riveted.

Waterway, how secured to Beams As above (Explain by Sketch, if necessary.)
Plates of the various Decks, how secured to the sides? Ends, braced knees and rivets No. of Breasthooks, four Crutches, three
What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Plates, Blackton and Vaughan
Manufacturer's name or trade mark, Frames Dolman Loring and Co. Beams and keelson angles Sprack and Co
The above is a correct description.
Builder's Signature, Gas Loring Surveyor's Signature, Joseph Keen
Surveyor to Lloyd's Register of British and Foreign Shipping.

BLHO + HENORI

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? *Solid single pieces*
 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? *in a few cases at the Butts only*

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

18373 Iron

No.	SAILS.	CABLES, &c.	Fathoms.	Inches.	Test per Certificate.	Length & Size req'd per Rule.	Test req'd per Rule.	ANCHORS.	No.	Weight. Ex. Stock.	Test per Certificate.	Wght req'd per Rule.	Test req'd per Rule.
	Fore Sails,	breaking			55-58		55-58		1	14.2.2	18.15.17	18.0.0	19 "
	Fore Top Sails,	Chain							1	15.1.14	16.16.2.7	15.1.0	16 7/10
	Fore Topmast Stay Sails	Hump Strm Cbl	70	15/16		90-15/16							
	Main Sails,	Hawser ...	70	8		90.10							
	Main Top Sails,	Towlines ...	90	6		90.9							
	and	Warp ...	90	5 1/2		90.5 1/2							
		quality											

Standing and Running Rigging *S.S.W.G. Rope* sufficient in size and *good* in quality. She has *one* Long Boat and *two* others
 The Windlass is *Cameron & Walker* Capstan *3* Winches and Rudder *good* Pumps *in addition to Steam 2 hand pumps*
Engine Room Skylights.—How constructed? *Wood St. Lb. on 2 R. Casing* How secured in ordinary weather? *Thumb Screws*
 What arrangements for deadlights in bad weather? *Solid Shutters fitted with Bulls Eyes.*
Coal Bunker Openings.—How constructed? *Iron Casings* How are lids secured? *hatch bars* Height above deck? *20" & 36"*
Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? *Scuppers and Ports in the Bulwarks*
Cargo Hatchways.—How formed? *Self-trimming "Pices" Patent, Iron plates angles and bulbs &c.*
 State size **Main Hatch** *39 x 12 1/2 ft* Forehatch *18 ft by a mean of 9 ft* Quarterhatch *32 1/2 ft by mean 12 ft*
 If of extraordinary size, state how framed and secured? *The above hatchways are subdivided into three parts by permanent*
 What arrangement for shifting beams? *Web-plate Beams, the longer compartments have three fore and*
Hatches, If strong and efficient? *Solid efficient* *Fore Hatch has one fore and after and one fixed Beam*

Order for Special Survey No.	Date	1st.	2nd.	3rd.	4th.	5th.
<i>2687</i>	<i>22nd Decr 1876</i>	On the several parts of the frame, when in place, and before the plating was wrought	On the plating during the process of riveting	When the beams were in and fastened, and before the decks were laid...	When the ship was complete, and before the plating was finally coated or cemented..	After the ship was launched and equipped
Order for Ordinary Survey No.						
No. <i>225</i>						

General Remarks (State quality of workmanship, &c.) *Good. See Letters, 12th and 21st Decr 76.*
She is Sister Ship to "Armstrong" Report No. 11540.
is a "Self-trimming" Collier having Hatchways fitted as per enclosed Sketch; She has efficient King Boards fitted on each side, but no Cargo battens are fitted above the Close Ceiling
Top Gallant Forecastle 24 ft long; a Raised Quarter Deck 70 ft long; at the front of which the Sheerstrake and topside plating is increased in thickness as shown on the Profile; before the above, and adjoining the same is a Bridge House 41 ft long.
She has Two Ballast Tanks; Foremost 51 ft long, after tank 51 ft long, fitted with fore and aft also transverse Web; each Tank has been pressed to the load line and found efficient

How are the surfaces preserved from oxidation? Inside *Cement to Bilges paint* Outside *Composition paint*
 I am of opinion this Vessel should be Classed *90-A-1. See Surveyors letters present date.*

The amount of the Entry Fee ... £ 5 : 0 : 0 is received by me,
 Special ... £ 45 : 4 : 0 *18th May 1877*
 Certificate ...
May 1877

Committee's Minute *22nd May 1877*
 Character assigned *90-A-1*
 Travelling Expenses, if any, £ ...
 Lloyd's Register of Shipping