

IRON SHIP.

No. 1166 Survey held at Sunderland Date, First Survey October 16th 1876 Last Survey May 12th 1877

On the Iron Steamer "Odara" Master John Clarke

TONNAGE under Tonnage Deck	<u>1042 57</u>	ONE, OR TWO DECKED, THREE DECKED VESSEL.
Do of Third, Spar, or Awning Deck.	<u>123 43</u>	SPAR, OR AWNING-DECKED VESSEL.
Ditto of Poop, or Raised Qr. Dk.	<u>95 50</u>	HALF BREADTH (moulded) <u>15 65</u>
Ditto of Houses on Deck	<u>8 49</u>	DEPTH from upper part of Keel to top of Upper Deck Beams <u>19 62</u>
Ditto of Forecastle	<u>34 55</u>	GIRTH of Half Midship Frame (as per Rule) <u>31 39</u>
as Tonnage	<u>1304 54</u>	1st NUMBER <u>66 66</u>
Open Space	<u>54 84</u>	1st NUMBER, if a THREE-DECKED VESSEL
Engine Room	<u>417 45</u>	LENGTH <u>232 66</u>
or Tonnage at on Beam	<u>832 25</u>	2nd NUMBER <u>15 642</u>
		PROPORTIONS—Breadths to Length <u>under</u> <u>7 1/2</u>
		Depths to Length—Upper Deck to Keel <u>under</u> <u>12</u>
		Main Deck ditto <u>12</u>

Built at Sunderland
 When built 1877 Launched 3/3 77
 By whom built Murray & Foster
 Owners R. H. Perry & others
Southchurch, Southampton
 Port belonging to Southampton
 Destined Voyage Constadt
 and
 If Surveyed while Building, Afloat, or in Dry Dock.

LENGTH as per Rule	Feet. <u>234</u> Inches. <u>8</u>	BREADTH Moulded	Feet. <u>31</u> Inches. <u>4</u>	DEPTH top of Floors to Upper Deck Beams	Feet. <u>17</u> Inches. <u>11</u>	Power of Engines	Horse. <u>120</u>	Nº of Decks with flat laid	<u>1</u>
				Do. do. Main Deck Beams				Nº of Tiers of Beams	<u>2</u>

Dimensions of Ship per Register, length 236 2 breadth 31 5 depth 17 7

	Inches in Ship.	Inches per Rule.
KEEL, depth and thickness	<u>8 + 2 1/2</u>	<u>8 1/2 + 2 1/2</u>
STEM, moulding and thickness	<u>8 + 2 1/2</u>	<u>8 + 2 1/2</u>
TERN-POST for Rudder do. do. for Propeller	<u>8 + 5</u>	<u>8 + 5</u>
Distance of Frames from moulding edge to moulding edge, all fore and aft	<u>23</u>	<u>23</u>
	(Class <u>90A</u>)	
FRAMES, Angle Iron, for 3/4 length amidships	<u>4 3 7</u>	<u>4 3 7</u>
Do. for 1/2 at each end	<u>4 3 6</u>	<u>4 3 6</u>
REVERSED FRAMES, Angle Iron	<u>3 3 6</u>	<u>3 3 6</u>
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships	<u>20</u>	<u>8 9</u>
thickness at the ends of vessel	<u>7</u>	<u>7</u>
depth at 3/4 the half-bdth. as per Rule	<u>10</u>	<u>10</u>
height extended at the Bilges	<u>twice</u>	<u>twice</u>
BEAMS, Upper Spar or Awning Deck		
Single or double Angle Iron, Plate or Tee Bulb Iron	<u>7 3 7</u>	<u>7 3 7</u>
Angle or double Angle Iron on Upper edge	<u>3 3 6</u>	<u>3 3 6</u>
Average space	<u>46"</u>	<u>46"</u>
BEAMS, Main or Middle Deck		
Single or double Angle Iron, Plate or Tee Bulb Iron	<u>5 1/2 3 7</u>	<u>5 1/2 3 7</u>
Angle or double Angle Iron, on Upper Edge	<u>on long frame approved</u>	
Average space	<u>on long frame approved</u>	
BEAMS, Lower Deck, Hold, or Orlop		
Single or double Angle Iron, Plate or Tee Bulb Iron	<u>8 1/2 8</u>	
Angle or double Angle Iron on Upper Edge	<u>4 3 7</u>	
Average space	<u>8" + 10" frame approved</u>	
KEELSONS Centre line, single or double plate, bar, or intercostal, Plates	<u>16</u>	<u>12 16 12</u>
" Rider Plate	<u>10 3/4</u>	<u>12 10 3/4 12</u>
" Bulb Plate to Intercostal Keelson	<u>5 3/2 9</u>	<u>5 3/2 9</u>
" Angle Irons	<u>5 3/2 9</u>	<u>5 3/2 9</u>
" Double Angle Iron Side Keelson	<u>5 3/2 9</u>	<u>5 3/2 9</u>
" Side Intercostal Plate	<u>3 3 6</u>	<u>3 3 6</u>
" do. Angle Irons	<u>3 3 6</u>	<u>3 3 6</u>
Attached to outside plating with angle iron	<u>5 3/2 9</u>	<u>5 3/2 9</u>
do. Angle Irons	<u>7 1/2</u>	<u>7 1/2</u>
do. Bulb Iron	<u>7 1/2</u>	<u>7 1/2</u>
do. Intercostal plates riveted to plating for length	<u>5 3/2 9</u>	<u>5 3/2 9</u>
DOUBLE STRINGER Angle Irons	<u>5 3/2 9</u>	<u>5 3/2 9</u>
Intercostal plates riveted to plating for length	<u>5 3/2 9</u>	<u>5 3/2 9</u>
SIDE STRINGER Angle Irons	<u>5 3/2 9</u>	<u>5 3/2 9</u>

	Inches In Ship.	16ths In Ship.	Inches required	16ths required
Flat Keel Plates, breadth and thickness	<u>34</u>	<u>10 9</u>	<u>34</u>	<u>10 9</u>
PLATES in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges	<u>9</u>	<u>9</u>	<u>9</u>	<u>9</u>
of doubling at Bilge, or increased thickness, and length applied	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>
fm up. part of Bilge to lr. edge of Sheerstrake	<u>9</u>	<u>9</u>	<u>9</u>	<u>9</u>
Main Sheerstrake, breadth and thickness	<u>43</u>	<u>13 10</u>	<u>36</u>	<u>13 10</u>
of doubling at Sheerstrake, & length applied from Mn to Upr. or Spar Dk. Sheerstrake.	<u>9 3/4</u>	<u>16 3/4</u>	<u>9 3/4</u>	<u>16 3/4</u>
Up or Spar Dk. Sheerstrake, breadth & thickness	<u>9 10</u>	<u>14 9 10</u>	<u>14</u>	<u>14</u>
Butt Straps to outside plating, breadth & thickness	<u>10 spaces</u>		<u>2 spaces</u>	
Lengths of Plating	<u>48</u>	<u>10</u>	<u>50</u>	<u>9</u>
Shifts of Plating, and Stringers	<u>29</u>	<u>8</u>	<u>28</u>	<u>8</u>
Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness	<u>5 3/2 9</u>	<u>5 3/2 9</u>	<u>5 3/2 9</u>	<u>5 3/2 9</u>
Angle Iron on ditto	<u>12</u>	<u>9</u>	<u>12</u>	<u>9</u>
Tie Plates fore and aft, outside Hatchways	<u>24</u>	<u>8</u>	<u>24</u>	<u>8</u>
Diagonal Tie Plates on Beams No. of Pairs	<u>33 1/2</u>	<u>9</u>	<u>33 1/2</u>	<u>9</u>
Planksheer material and scantling	<u>24</u>	<u>8</u>	<u>24</u>	<u>8</u>
Waterways do. do.	<u>30</u>	<u>8</u>	<u>30</u>	<u>8</u>
Flat of Upper Deck do. do.	<u>24</u>	<u>7</u>	<u>24</u>	<u>7</u>
How fastened to Beams	<u>4 + 4 8</u>	<u>4 + 4 8</u>	<u>4 + 4 8</u>	<u>4 + 4 8</u>
Stringer Plate on ends of Main or Middle Deck	<u>5 3/2 9</u>	<u>5 3/2 9</u>	<u>5 3/2 9</u>	<u>5 3/2 9</u>
Beams, breadth and thickness	<u>30</u>	<u>8</u>	<u>30</u>	<u>8</u>
Is the Stringer Plate attached to the outside plating?	<u>24</u>	<u>7</u>	<u>24</u>	<u>7</u>
Angle Irons on ditto, No.	<u>4 + 4 8</u>	<u>4 + 4 8</u>	<u>4 + 4 8</u>	<u>4 + 4 8</u>
Tie Plates, outside Hatchways	<u>5 3/2 9</u>	<u>5 3/2 9</u>	<u>5 3/2 9</u>	<u>5 3/2 9</u>
Diagonal Tie Plates on Beams, No. of pairs	<u>30</u>	<u>8</u>	<u>30</u>	<u>8</u>
Waterways materials and scantlings	<u>24</u>	<u>7</u>	<u>24</u>	<u>7</u>
Flat of Middle Deck do. do.	<u>4 + 4 8</u>	<u>4 + 4 8</u>	<u>4 + 4 8</u>	<u>4 + 4 8</u>
How fastened to Beams	<u>5 3/2 9</u>	<u>5 3/2 9</u>	<u>5 3/2 9</u>	<u>5 3/2 9</u>
Stringer Plates on ends of Lower Deck, Hold or Orlop Beams	<u>5 3/2 9</u>	<u>5 3/2 9</u>	<u>5 3/2 9</u>	<u>5 3/2 9</u>
Is the Stringer Plate attached to the outside plating?	<u>2 1/2</u>	<u>2 1/2</u>	<u>2 1/2</u>	<u>2 1/2</u>
Angle Irons on ditto, No.	<u>5 3/4</u>	<u>5 3/4</u>	<u>5 3/4</u>	<u>5 3/4</u>
Stringer or Tie Plates, outside Hatchways	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>
Flat of Lower Deck	<u>6.5</u>	<u>6.5</u>	<u>6.5</u>	<u>6.5</u>
Ceiling betwixt Decks, thickness and material	<u>5 3/4</u>	<u>5 3/4</u>	<u>5 3/4</u>	<u>5 3/4</u>
in hold do. do.	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>
Main piece of Rudder, diameter at head				
do. at heel				
Can the Rudder be unshipped afloat?	<u>4</u>	<u>6.5</u>	<u>4</u>	<u>6.5</u>
Bulkheads No.	<u>4</u>	<u>6.5</u>	<u>4</u>	<u>6.5</u>
Thickness of	<u>Lower Upper and Bridge Deck</u>			
Height up	<u>between double frames</u>			
How secured to sides of ship	<u>3 + 3 + 6</u>	<u>30</u>	<u>30</u>	<u>ins.</u>
Size of Vertical Angle Irons	<u>3 + 3 + 6</u>	<u>30</u>	<u>30</u>	<u>ins.</u>
and distance apart	<u>30</u>	<u>30</u>	<u>30</u>	<u>ins.</u>
Are the outside Plates doubled two spaces of Frames in length?	<u>yes</u>			

Transoms, material. Knight-heads. Hawse Timbers. Iron
 Rudderless Iron Patent Pall Bitt none required

FRAMES extend in one length from the middle line to Main + raised decks Riveted through plates with 3/4 in. Rivets, about 6 apart.
 REVERSED ANGLE IRONS on floors and frames extend from middle line to above Hold stringer and to Main + raised decks alternately
 KEELSONS. Are the various lengths of Plates and Angle Irons properly connected? yes And butts properly shifted? yes

LAPING. 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 1/4 ins. from centre to centre.
 Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 3/4 in. diameter averaging 3 1/4 ins. from centre to centre.
 Butts of 3 Strakes at Bilge for 1/2 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 3/4 in. diameter, averaging 3 1/4 ins. from cr. to cr.
 Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 3/4 in. diameter, averaging 3 1/4 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 twice Breadth of laps of plating in single riveting 1/2

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted?
 How secured to Beams full the gunwale. (Explain by Sketch, if necessary.)
 How secured to the sides? plates turned on Main No. of Breasthooks, 5 Crutches, 3
 description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c. Plates, Boursfield + Stephens
 manufacturer's name or trade mark, Warrington & Co. S. Tyzack, Hopkins & Co
 The above is a correct description.
 Builder's Signature, Murray & Foster Surveyor's Signature, [Signature]

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? a few

Masts, Bowsprit, Yards, &c., are of 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 Schooner rigged

18345 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.	W'ght req'd per Rule.	Test req'd per Rule.
								Bowers	Stream					
		Chain	270	1 9/16	43 9/10	270 1 9/16	43 9/10	1	24.0 14	23.19 22 1/2	23 1/2	23 1/2	23 1/2	
		Anchor						1	22.0 14	21.9 14	23 1/2	23 1/2	23 1/2	
								1	21.3 6	22.6 07	20	20 1/2	20 1/2	
								8 and 28						
									10.1 20	11.00 0	10.00			
									5.00 0	6.72 0	5.00			
									2.2 14	4.10 00	2.2 0			

Standing and Running Rigging Wrought Iron sufficient in size and good in quality. She has 4 Long Boats and 2 fitted in life boats
 The Windlass is Harfield Patent Capstan good and Rudder good Pumps good & sufficient for raising & dewatering
 Engine Room Skylights.—How constructed? Plate iron and Wood How secured in ordinary weather? Wood shutters
 What arrangements for deadlights in bad weather? Wood shutters and Bull eyes
 Coal Bunker Openings.—How constructed? Plate & angle iron How are lids secured? Bars & Hatches Height above deck? 12"
 Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? 6 Ports and 6 scuppers each side

Cargo Hatchways.—How formed? Plate and angle iron
 State size Main Hatch 19' x 10 1/2 Forehatch 19' 10" x 10 Quarterhatch 7' 6" x 7' 6"
 If of extraordinary size, state how framed and secured? Deep wearing plate and strong plate beams
 What arrangement for shifting beams? Welds and screw to double angle iron
 Hatches, If strong and efficient? Yes. Wood Hatches 2 1/4"

Order for Special Survey No.	Date	Order for Ordinary Survey No.	Date	No.
2657	23rd Sept. 1876			49

1st. On the several parts of the frame, when in place, and before the plating was wrought
 2nd. On the plating during the process of riveting
 3rd. When the beams were in and fastened, and before the decks were laid...
 4th. When the ship was complete, and before the plating was finally coated or cemented...
 5th. After the ship was launched and equipped

Build under S.P. and Surveyed 1876 October 16 20 23 30 Frame 14 16 20 21 22 24 30 Dec 4 15 18 22 24 27 29 Jan 5 6 11 16 18 22 23 26 Feb 13 5 9 12 16 21 27 March 25 24 21 22 24 April 4 10 11 14 19 23 26 May 2 2 9 12

General Remarks (State quality of workmanship, &c.) The workmanship is good. This vessel has been built in general conformity with the Rules and in accordance with the haulings and arrangements shown on the approved midship section and profile tracing attached which was sanctioned by the Surveyors letter dated 28th September 1876. The plating at breast of Bridge House at the fore end is 9/16th. She has water ballast arranged as shown on the tracing, also a raised deck 88 feet fore-castle 29' and Bridge House 41 feet. As the arrangement for Hold Beams has been fully carried out through the Engine and Boiler space as shown on the tracing and the iron deck continued through this space and the Hold beam stringer carried through for its entire width proper shifted it was not considered necessary to submit this point for approval. The Ballast tanks have been proved to a head of water equal to the maximum load line and found to be efficient.

State if one, two, or three, decked vessel, or if spar, or awning decked; and the lengths of poop, fore-castle, or raised quarter deck, and the length of double, or part double bottom.
 How are the surfaces preserved from oxidation? Inside Paint and Paint Outside Red Lead and Paint
 I am of opinion this Vessel should be Classed 90 A.1. part double bottom

The amount of the Entry Fee ... £ 5 : : : is received by me, MW
 Special ... £ 56 : 5 : : 19th May 1877
 Certificate ... : : :
 (Travelling Expenses, if any, £)

Committee's Minute 22nd May 1877
 Character assigned 90 A.1.
J.R.W.
Lloyd's

