

IRON SHIPS.

No. 11489 Survey held at Newcastle Date, First Survey 24 February Last Survey 12 June 1878

On the Steamer "Grand Duke Alexis" Master G. R. Edqvist

Tonnage under Tonnage Deck	440-42	ONE, OR TWO DECKED, GRAD, OR AWNING-DECKED VESSELS. Half moulded breadth ... 12-3 Depth from upper part of Keel to top of Upper Deck Beams ... 11-9 Girth of Half Midship Frame (as per Rule) ... 10-9 1st Number Length ... 447 147-5 2nd Number Length ... 6883 5900 3rd Number Length ... 5900 4th Number Length ... 5900 Depths to Length. 13 4 14	THREE DECKED VESSELS. Half Moulded Breadth ... Total Depth of three or more Decks ... Total Girth of Half Midship Frame ... 3rd Number Length ... 4th Number Length ... Breadths to Length ...
Depth of Main Spar, or Mast, or Mast			
Depth of Poop, or Raised Qr. Dk.			
Depth of Houses on Deck	4-08		
Depth of Forecastle			
Gross Tonnage	444-50		
Net Tonnage			
Depth of Main Deck	142-24		
Depth of Lower Deck			
Depth of Upper Deck	302-26		

Built at Newcastle
 When built 1871 Launched May 6/71
 By whom built C. Mitchell & Co
 Owners Steam Navigation Co
 Port belonging to Archangel
 Destined Voyage Archangel
 If Surveyed while Building, Afloat, or in Dry Dock. Whilst building

PLANS CASE

Length on deck as per Rule, 147 6 Moulded Breadth, 24 6 Depths from top of Floors to Upper Main Deck Beams, as per Rule, 10 0 Power of Engines, 60 N^o. of Decks with flat laid Two N^o. of Tiers of Beams Two

Dimensions of Ship per Register, length, 157-0 breadth, 24-6 depth, 16-0

	Inches in Ship.			Inches required per Rule.		
	In Ship.	In Ship.	In Ship.	Inches.	Inches.	16ths required per Rule.
Keel, if bar iron, depth and thickness	6	17/8	4	4	15/8	5
Do. if centre through plate, depth and thickness	6 1/2	17/8	4	4	15/8	5
Stem, if bar iron, moulding and thickness	6	3 1/4	4	6	3 1/4	5
Stern-post for Rudder do. do.	6	3 1/4	4	6	3 1/4	5
Stern-post for Propeller	6	3 1/4	4	6	3 1/4	5
Distance of Frames from moulding edge to moulding edge, all fore and aft	21			21		
Frames, size of Angle Iron, for 1/3 length amidships	3	2 1/2	5	3	2 1/2	5
Do. for 1/2 at each end	3	2 1/2	4	3	2 1/2	4
Reversed Frames, size of Angle Iron	2 1/2	2 1/4	4	2 1/2	2 1/4	4
Floors, depth and thickness of Floor Plate at mid line for half the length amidships	14 1/2	5		14 1/2	5	
Do. at the ends	14 1/2	4		14 1/2	4	
Do. do. do. at Bilge Keelson	8	5 1/4		8	5 1/4	
Do. height extended at the Bilges	2 1/2	5		2 1/2	5	
Beams, Upper, Spar, or Awning Deck (No. 36) single or double Angle Iron, Plate or Tee Bulb Iron	5	3	5	5	3	5
Single or double Angle Iron on Upper edge	5	3	5	5	3	5
Average space	6	6		6	6	
Beams, Main or Middle Deck (No. 32) single or double Angle Iron, Plate or Tee Bulb Iron	6	6		6	6	
Single or double Angle Iron, on Upper Edge	2 1/2	2 1/4	4	2 1/2	2 1/4	4
Average space	3	6		3	6	
Beams, Lower Deck, Hold or Orlop (No.) single or d'ble Ang. Iron, Plate or Tee Bulb Iron						
Single or double Angle Iron on Upper Edge						
Average space						
Keelson Centre line, single or double plate, box, or Intercostal, size of Plates			5			5
Do. Bulb Plate to Intercostal Keelson		6	6		6	6
Do. Size of Angle Irons	3	3	6	3	3	6
Do. Side Intercostal Keelson, size of Plates						
Do. Angle Irons on tops of Floors						
Do. Bilge Keelson, Bulb Iron		6	6		6	6
Do. do. Intercostal plates riveted to plating for length						
Do. do. Angle Irons	3	3	6	3	3	6
Side Stringers (No. One) size of Angle Irons	3	3	6	3	3	6
Do. Intercostal plates riveted to plating for length						

Transoms, material Yes or, if none, in what manner compensated for.
 Knight-heads Yes Hawse Timbers Yes
 Windlass Iron pallet Pall Bitt Iron regd
 The Frames extend in one length from keel to gunwale Riveted through plates with (5/8 in.) Rivets, about 6" apart.
 The Reverse Angle Irons on the floors and frames extend across the middle line to bilge and to Main Dk alternately
 Keelsons. Are the various lengths of Plates and Angle Irons properly connected? Yes And are their butts properly shifted? Yes
 Plates, Garboard, double o Riveted to Keel, double o at upper edge, with Rivets (7/8 in.) diameter, averaging (3 1/2 ins.) from centre to centre.
 Do. Edges from Garboards to upper part of Bilge, worked Clencher, double o Riveted; with Rivets (5/8 in.) diameter, averaging (3 ins.) from centre to centre.
 Do. Butts from Keel to turn of Bilge, worked carvel with butt straps to strakes (7/16) thick, double o Riveted; with Rivets (5/8 in.) diameter averaging (3 ins.) from centre to centre. Do the Butt Straps lay over and Rivet through the lands of the strakes above or below? No
 Do. of 2 Strakes at Bilge for 1/2 length, double riveted with Butt Straps 1/16 thicker than their plates.
 Do. Edges from bilge to Main Sheerstrake, worked carvel with a lining piece () thick, or clencher, double o Riveted; with rivets (5/8 in.) diameter, averaging (3 ins.) from centre to centre.
 Do. Edges of Sheerstrake, Main, double o Riveted. Upper, double Riveted. At upper edge Single At lower edge double
 Do. Butts from Bilge to Main Sheerstrake, worked Carvel with Butt Straps (5/16) thick, double o Riveted; with Rivets (5/8 in.) diameter, averaging (3 ins.) from centre to centre.
 Do. Butts of Main Sheerstrake, double o Riveted. Butts of Upper or Spar Sheerstrake, and Upper Deck Stringer Plate, double o Riveted for whole length amidships. Breadth of laps of plating in double Riveting (3 3/4) Breadth of laps of plating in single Riveting (2 1/2)
 Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? Double riveted
 Planksheer, how secured to the plating of the sides. Waterway, how secured to the planksheer and to the Beams. (Explain by Sketch, if necessary.)
 Beams of the various Decks, how secured to the sides? Turned down No. of Breasthooks, Four Crutches, Two
 What description of Iron is used for the Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.?
 Manufacturer's name or trade mark, Walter & Co
 I certify that the above is a correct description of the particulars therein given.
 Builder's Signature, La C. Mc Surveyor's Signature, Benj. Mitchell

IRON 1148 - 0442

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
 Do the fillings between the ribs and plates fill in solid with single pieces? or are they in short lengths of various thicknesses? Solid in places
 Do the holes for riveting plate to frames, butt straps, or plate to plate, &c., conform well to each other? Yes and are the rivet holes well and sufficiently countersunk in the plate and punched from the faying surfaces? Yes
 Are there any rivets which either break into or have been put through the seams or butts of the plating? Very few

Her Masts, Bowsprit, Yards, &c., are in good condition, and sufficient in size and length. If they are of Iron or Steel give the 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

90932m

Number for equipment		Fathoms.	Inches.	Test as per Certificate.	In. req'd per Rule.	Test req'd per Rule.	ANCHORS, &c.	N ^o .	Weight. Ex. Stock.	Test as per Certificate.	W'ght req'd per Rule.	Test req'd per Rule.																								
N ^o .	SAILS.	X						Bowers																												
	Fore Sails,							X						(State Machine where Tested, and name of Superintendent).																						
	Fore Top Sails,													X						Stream																
	Fore Topmast Stay Sails																			X						Kedges										
	Main Sails,																									X										
	Main Top Sails,																															X				
	CABLES, &c.	X																																		
	Chain							X																												
	(State Machine where Tested, and name of Superintendent).													X																						
	Hempen Stream Cable																			X																
	Hawser																									X										
	Towlines																															X				
	Warp	X																																		
	All of quality.							X																												

Her Standing and Running Rigging is sufficient in size and good in quality. She has one Long Boat and two others.
 The present state of the Windlass is good Capstan and Rudder good Pumps good
Engine Room Skylights.—How constructed? Iron casings How secured in ordinary weather? Lugs
 What arrangements are there for deadlights in such for bad weather? Solid Lead shutters & bulls eyes
Coal Bunker Openings.—How constructed? Iron pipes How are lids secured? Studs How high above deck? 3 in.
Scuppers, &c.—What arrangements are there beyond the scuppers on deck, for clearing upper deck of water, in case of a sea coming on board? Ports on each side
Cargo Hatchways.—How formed? Iron casings State size 10' 6" x 8' 0" 7' 0" x 6' 0"
 If of extraordinary size, state how framed and secured? Ordinary eye
 What arrangement for shifting beams? Double line fore and aft
Hatches, themselves, whether strong and efficient? Yes **Main Hatchways.**—State size 10' 6" x 8' 0"

Order for Special Survey No. 800 DATES of
 Date 5 Jan 1871 Surveys held
 Order for Ordinary Survey No. 254 while building
 Date as per as per
 No. 254 in builder's yard. Section 18.

- 1st. On the several parts of the frame, when in place, and before the plating was wrought
- 2nd. On the plating during the progress 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

General Remarks,
 This vessel has a double bottom in the after hold—the plating of which is $\frac{1}{16}$ the flange plates $\frac{5}{16}$ thick.

X This is an Awning decked vessel, and not entitled to be marked "Double Bottom."

State if one, two or three decked vessel, or if spar or awning decked, and lengths of poop, forecabin or raised quarter deck, or of double or part double bottom
 In what manner are the surfaces preserved from oxidation? Inside Painted cement Outside Paint
 I am of opinion this Vessel should be Classed 100A

The amount of the Entry Fee £ 5: 0: 0 is received by me,
 Special £ 22: 4: 0
 Certificate

(Travelling Expenses)
 (if any) £

Committee's Minute 25th June 1871

Character assigned 100A

This Awning Decked vessel, from the fund Special Survey appears to have been built in conformity with the accompanying slip, submitted to the Registrar of the Lloyd's Register of Shipping.

