

IRON SHIPS.

No. 5816 Survey held at Port Glasgow Date, first Survey 19th January Last Survey 25th July 1870
 on the Spar Decked Screw Steamer Renfrewshire Master Watt

Tonnage under Tonnage Deck	499.41	ONE, OR TWO DECKED VESSELS.	THREE DECKED VESSELS.	Built at	Port Glasgow
Ditto of Spar Deck, or Awaiting Deck.	321.11	Half moulded breadth 14	Half Moulded Breadth	When built	1870
Ditto of Poop, or Raised Or. Dk.	3.04	Depth from upper part of Keel to top of Upper Deck Beams 15.5	Total Depth if three or more Decks	Launched	16 th June 1870
Ditto of Houses on Deck		Girth of Half Midship Frame 26.8	Total Girth of Half Midship Frame	By whom built	Blackwood & Gordon
Ditto of Forecastle		1st Number 56.3	3rd Number	Owned by	James Turnbull
Gross Tonnage	823.56	Length 194.5	Length	Port belonging to	Port Glasgow
Crew Space, as per Rule	50.52	2nd Number 109.5035	4th Number	Destined Voyage	Clyde to Black Sea
Register Tonnage, cut on Beam	773.04	Depths to Length 14.29	Breadths to Length 6.9	Surveyed while Building	Afloat, or in Dry Dock
Engine Room	261.87				
Register Tonnage, as a Steamer, cut on the Beam	511.17				

Length on deck as per Rule	194	Feet. Inches.	Feet. Inches.	Depth from top of Keel to Deck Beam, as per Rule	15	Feet. Inches.	Power of Engines, 90	Horse.	No. of Decks, Two	No. of Tiers of Beams Two
Moulded Breadth	28	Feet. Inches.	Feet. Inches.	Depth from top of Keel to Deck Beam, as per Rule	13	Feet. Inches.	" Effective	478		
Dimensions of Ship per Register, length, 200.5 breadth, 28.2 depth, 13.5										
Keel, if bar iron, depth and thickness	7 x 2 3/4	Inches in Ship.	Inches required per Rule.	Do. if centre through plate, depth and thickness	7 x 2 3/4	Inches in Ship.	Inches required per Rule.			
Stem, if bar iron, moulding and thickness	7 x 2 3/4	Inches in Ship.	Inches required per Rule.	Stern-post do. do. do.	7 x 4 1/2	Inches in Ship.	Inches required per Rule.			
Distance of Frames from moulding edge to moulding edge, all fore and aft	21	Inches in Ship.	Inches required per Rule.	Frames, size of Angle Iron, for 1/2 length amidships	3 1/2	Inches in Ship.	Inches required per Rule.			
Do. for 1/4 at each end	3 1/2	Inches in Ship.	Inches required per Rule.	Reversed Frames, size of Angle Iron	3	Inches in Ship.	Inches required per Rule.			
Floors, depth and thickness of Floor Plate at mid line for half the length amidships	20	Inches in Ship.	Inches required per Rule.	Do. at the ends	3 1/2	Inches in Ship.	Inches required per Rule.			
Do. do. do. at Bilge Keelson	20	Inches in Ship.	Inches required per Rule.	Do. height extended at the Bilges	51	Inches in Ship.	Inches required per Rule.			
Beams, Three Decked, Spar, or Awaiting Decked (No.) single or double Angle Iron, Plate or Tee Bulb Iron	5	Inches in Ship.	Inches required per Rule.	Angle or double Angle Iron on Upper edge	2	Inches in Ship.	Inches required per Rule.			
Average space	42	Inches in Ship.	Inches required per Rule.	Beams, Upper or Middle Deck (No.) single or double Angle Iron, Plate or Tee Bulb Iron	7	Inches in Ship.	Inches required per Rule.			
Single or double Angle Iron, on Upper Edge	3	Inches in Ship.	Inches required per Rule.	Average space	42	Inches in Ship.	Inches required per Rule.			
Beams, Lower Deck or Orlop (No.) single or double Angle Iron, Plate or Tee Bulb Iron	7	Inches in Ship.	Inches required per Rule.	Single or double Angle Iron on Upper Edge	4 1/2	Inches in Ship.	Inches required per Rule.			
Average space	42	Inches in Ship.	Inches required per Rule.	Keelson Centre line, single or double plate, box or Intercoastal, size of Plates	24 1/2	Inches in Ship.	Inches required per Rule.			
Do. Bulb Plate to Intercoastal Keelson	8	Inches in Ship.	Inches required per Rule.	Do. Size of Angle Irons	4 1/2	Inches in Ship.	Inches required per Rule.			
Do. Side Intercoastal Keelson, size of Plates	4 1/2	Inches in Ship.	Inches required per Rule.	Do. Angle Irons on tops of Floors	7	Inches in Ship.	Inches required per Rule.			
Do. Bilge Keelson, Bulb Iron	7	Inches in Ship.	Inches required per Rule.	Do. do. Angle Irons	4 1/2	Inches in Ship.	Inches required per Rule.			
Do. Side Stringers (No. one) size of Angle Irons	4 1/2	Inches in Ship.	Inches required per Rule.	Transoms, material Iron or, if none, in what manner compensated for.						
				Knight-heads Iron Hawse Timbers Iron						
				Windlass Harfields Patent Pall Bitt None						

The Frames extend in one length from Keel to Spar Deck Gunwale
 The Reverse Angle Irons on the floors extend across the middle line to lower Deck Stringer
 On all the Frames and to Gunwale on Alternate Frames (2)
 Keelsons. Are the various lengths of Plates and Angle Irons properly connected? Yes And are their butts properly shifted? Yes
 Plates, Garboard, double or single Riveted to Keel, double or single rivetted at upper edge, with Rivets (10 3/4 in.) diameter, averaging (50 3/4 ins.) from centre to centre.
 Do. Edges from Garboards to upper part of Bilge, worked Clencher, double or single Riveted; with Rivets (3/4 in.) diameter, averaging (3 1/4 ins.) from centre to centre.
 Do. Butts from Keel to turn of Bilge, worked Carvel with butt straps (9 1/2 x 5/16) thick, double or single Riveted; with Rivets (3/4 in.) diameter averaging (3 1/4 ins.) from centre to centre. Do the Butt Straps lay over and Rivet through the lands of the strakes above or below? No.
 Do. Edges of Sheerstrake, double or single Riveted. At upper edge Single at Angle Irons double At lower edge Double
 Do. Butts from Bilge to Planksheers, worked Carvel with Butt Straps (8 1/2 x 1/16) thick, double or single Riveted; with Rivets (3/4 in.) diameter, averaging (3 1/4 ins.) from centre to centre. Breadth of laps in double Riveting (4 1/4 in.) Breadth of laps in single Riveting (30 2 3/4)
 Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? Double
 Planksheer, how secured to the plating of the sides, { Explain by Sketch, } See Midship Section here with
 Waterway " " planksheer and to the Beams, { if necessary. } Beam ends turned down
 Beams of the various Decks, how secured to the sides? Beam ends turned down No. of Breasthooks, Four Crutches, Four
 What description of Iron is used for the Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c. For Head & Co. Middlesbrough
 Manufacturer's name or trade mark For Head & Co. Middlesbrough
 We certify that the above is a correct description of the several particulars therein given.
 Builder's Signature, Blackwood & Gordon Surveyor's Signature, Saml. Lapham

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 lengths
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? A few in Butts only

Her Masts, Bowsprit, Yards, &c., are in Good condition, and sufficient in size and length. Yes 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. Fore Mast 94 feet, diameter 18 ins Main Mast 80 feet diameter 18 ins
Mizzen Mast 70 feet 14 ins diameter

Thickn^g of Plate Rivetting of Butts Rivetting of Edges Angle Irons & No.
Fore Mast 5/16 & 5/16 Double Double 2 1/2 x 2 1/2 x 5/16 3
Main Mast 5/16 & 5/16 Double Double 2 1/2 x 2 1/2 x 5/16 3

Chain Cables and Anchors Tested at Lloyds Tipton Riving House, S. Threlkeld

Number for equipment	Fathoms.	Inches.	Test as per Certificate.	In. req'd per Rule.	Test req'd per Rule.	ANCHORS, &c.	No.	Weight. Ex. Stock.	Test as per Certificate.	Weight req'd per Rule.	Test req'd per Rule.
SAILS.											
Fore Sails,	Chain 5025-4-40	17/16	37.4.0.0	1 5/16	31 Tons	Bowers	4555	18.1.26	19.5.3.0	15 7/4	16 7/10
Fore Top Sails,	(State Machine where Tested, and name of Superintendent).						4556	18.3.10	19.15.1.7	15 7/4	16 7/10
Fore Topmast Stay Sails	<u>Werner Stream</u>	90 studs	13/16	11.18.0.0		(State Machine where Tested, and name of Superintendent).	4557	15.3.10	17.5.1.7	12.3.24	14 13/20
Main Sails,	Chain Cable	90 studs	13/16	11.18.0.0		with Stock Stream	1	8.0.23		6.2.0	
Main Top Sails,	Hawser	90	9			Kedges	1	4.0.12		3 1/4 Cut	
	Towlines ...	90	7					2.0.0		13 1/4 "	
	Warp										
	All of good quality.										

Her Standing and Running Rigging Kemp sufficient in size and good in quality. She has one life long Boat and two others

The present state of the Windlass is Harfield & Co's Capstan and Rudder good Pumps Two Main & One Donkey in Engine Room

Engine Room Skylights. How constructed? Iron Comings How secured in ordinary weather? Quadrants & Hasps

What arrangements are there for deadlights in such for bad weather? Tarpanlings

Coal Bunker Openings. How constructed? Iron Rims & Lids How are lids secured? By Checks How high above deck? Flush with Spar Deck

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? Spar Deck Flush

Cargo Hatchways. How formed? Iron Comings connected to Plating by angle plates State size 21 feet by 9 feet

If of extraordinary size, state how framed and secured? Substantial Iron Comings with Athwartship Iron Calkings and Iron Pillars

What arrangement for shifting beams? Iron Lugs hove up with Nuts and Screw bolts to Comings

Hatches, themselves, whether strong and efficient? Strong & efficient Main Hatchways. State size 21 feet by 9 feet

Order for Special Survey No. <u>533</u>	DATES of	1st. On the several parts of the frame, when in place, and before the plating was wrought	Specially Surveyed while building from January to July 1870 in all 26 visits
Date <u>22 Jan 1870</u>	Surveys held	2nd. On the plating during the progress of riveting	
Order for Ordinary Survey No. _____	while building	3rd. When the beams were in and fastened, and before the decks were laid	
Date _____	as per	4th. When the ship was complete, and before the plating was finally coated or cemented	
No. <u>124</u> in builder's yard.	Section 18.	5th. After the ship was launched and equipped	

General Remarks, This vessel has been built under Special Survey No 533 she is Schooner Rigged and is fitted with a Spar Deck 7' 1" in height.

She was originally intended for the 1st grade as per approved Midship Section herewith but the Owner is now desirous of having her classed upon the Numeral principle and she has been compared with the 90 A grade as shown on the other side

It will be observed that her Scantlings are equal to and in many instances in excess of the requirements of the Rules for the Class sought except two strakes of Plating at turn of Bidge for half the vessels length which should have been 2 1/16 thicker, but in consideration of the Floor Plates which are deeper and thicker all fore and aft and extend well over the turn of Bidges 16 ins in height more than the Rules require, as per sketch herewith appended, we are of opinion the deficiency is fully compensated for and worthy the favorable consideration of the Committee for the Class sought.

In what manner are the surfaces preserved from oxidation? Inside Portland Cement between Floors Outside Three coats of Red Lead

We are of opinion this Vessel should be Classed 90 A 1 subject to the approval of the Committee

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

Travelling Expenses (if any)£ :

Special£ 38 : 13 : 0

Certificate :

Committee's Minute August 18 1870

Character assigned 90 A 1 Spardeck Passengers only

M.C. A.C.P.

Gen Comm'n
12th October 1870

As to Class 1870

Saml. Lapham

H.T.S. & Co.

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