

IRON SHIP.

1989

No. 457 Survey held at Glasgow
On the S. "Loch Etive"

Date, First Survey 19th Decr 1876 Last Survey 27th Decr 1877

Master Wm Stuart

TONNAGE under 1129.81 ONE, OR TWO DECKED, THREE DECKED VESSEL.
Tonnage Deck }
Ditto of Third, Spar, or Awning Deck. }
Ditto of Poop, or Raised Or. Dk. } 115.92
Ditto of Houses on Deck }
Ditto of Forecastle 42.02
Gross Tonnage 1287.75
Less Crew Space 52.94
Less Engine Room
Register Tonnage 1234.81 as cut on Beam

HALF BREADTH (moulded) 17.75
DEPTH from upper part of Keel to top of Upper Deck Beams 23.7
GIRTH of Half Midship Frame (as per Rule) 36.15
1st NUMBER 77.6
1st NUMBER, if a THREE-DECKED VESSEL
LENGTH 215.7
2nd NUMBER 16738
PROPORTIONS—Breadths to Length over 6 and under 6 1/2
Depths to Length—Upper Deck to Keel
Main Deck ditto

Built at Glasgow
When built 1877 Launched 22nd Nov 1877
By whom built A & S. Inglis
Owners Glasgow Shipping Co.
Port belonging to Glasgow
Destined Voyage Melbourne
Surveyed while Building, Afloat, or in D.

LENGTH on deck as per Rule 215 9 Feet. Inches. BREADTH—Moulded 35 6 Feet. Inches. DEPTH top of Floors to Upper Deck Beams 21 9 Feet. Inches. Do. do. Main Deck Beams 21 9
Power of Engines
Horse.
Nº. of Decks with flat laid
Nº. of Tiers of Beams

Dimensions of Ship per Register, length, 226.9 breadth, 35.95 depth, 21.65

	Inches in Ship.	Inches per Rule.
KEEL, depth and thickness	9 x 2 1/2	9 x 2 1/2
STEM, moulding and thickness	8 1/2 x 2 1/2	8 1/2 x 2 1/2
STERN-POST for Rudder do. do. for Propeller	8 1/2 x 2 1/2	8 1/2 x 2 1/2
Distance of Frames from moulding edge to moulding edge, all fore and aft	24	24
FRAMES, Angle Iron, for 1/2 length amidships Do. for 1/2 at each end	5 3 8 5 3 7	5 3 8 5 3 7
REVERSED FRAMES, Angle Iron	3 1/2 3 8	3 1/2 3 8
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	24 x 9 12 Twice	24 x 9 12 Twice
BEAMS, Upper, Spar, or Awning Deck Single or d'ble Ang. Iron, Plate or Tee Bulb Iron		
Single or double Angle Iron on Upper edge		
Average space		
BEAMS, Main, or Middle Deck Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	8 1/2 x 8	8 1/2 x 8
Single or double Angle Iron, on Upper Edge	3 3 7	3 3 7
Average space	48	48
BEAMS, Lower Deck, Hold, or Orlop Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	8 1/2 x 8	8 1/2 x 8
Single or double Angle Iron on Upper Edge	3 3 7	3 3 7
Average space	48	48
KEELSONS Centre line, single or double plate, box, or Intercostal, Plates	17 x 12	17 x 12
" Rider Plate	10 3/4 x 12	10 3/4 x 12
" Bulb Plate to Intercostal Keelson		
" Angle Irons	5 4 9	5 4 9
" Double Angle Iron Side Keelson	5 4 9	5 4 9
" Side Intercostal Plate		
" do. Angle Irons	3 1/2 3 8	3 1/2 3 8
" Attached to outside plating with angle iron		
BILGE Angle Irons	5 4 9	5 4 9
" do. Bulb Iron		
" do. Intercostal plates riveted to plating for length		
BILGE STRINGER Angle Irons	5 4 9	5 4 9
Intercostal plates riveted to plating for length		
SIDE STRINGER Angle Irons		

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 3 at ratio 1/6 fm up. part of Bilge to lr. edge of Sh'rstrake
Main Sheerstrake, breadth and thickness of d'bling at Sh'rstrake, & length applied from Mn. to Up. or Spar Dk. Sh'rstrake Up. or Spar Dk. Sh'rstrake, breadth & thickness
Butt Straps to outside plating, breadth & thickness 16 1/2 x 1 1/4 13-10 1/2 x 1 1/4 13-10
Lengths of Plating 14 5/8 10 1/2
Shifts of Plating, and Stringers Two spaces Two spaces
Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness
Angle Iron on ditto
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 42 10 42 10
Is the Stringer Plate attached to the outside plating? Yes Yes
Angle Irons on ditto, No. 1 5 x 4 x 9 5 x 4 x 9
Tie Plates, outside Hatchways 12 10 12 10
Diagonal Tie Plates on Beams, No. of pairs
Waterways materials and scantlings Gutter
Flat of Middle Deck do. do. 4 4
How fastened to Beams Nuts and screws
Stringer Plates on ends of Lower Deck, Hold or Orlop Beams 31 9 31 9
Is the Stringer Plate attached to the outside plating? Yes Yes
Angle Irons on ditto, No. 2 4 x 4 x 9 4 x 4 x 9
Stringer or Tie Plates, outside Hatchways 12 9 12 9
Flat of Lower Deck 3 3
Ceiling betwixt Decks, thickness and material in hold Rock Elm & Pitch Pine 2 1/2 2 1/2
Main piece of Rudder, diameter at head 6 6
do. at heel 3 3
Can the Rudder be unshipped afloat? Yes
Bulkheads No. 1 Thickness of 7-6 7-6
Height up to main deck
How secured to sides of ship By double frames
Size of Vertical Angle Irons 3 1/2 x 3 x 9/16 and distance apart 39 ins.
Are the outside Plates doubled two spaces of Frames in length? Yes

Transoms, material. Knight-heads. Hawse Timbers. Iron
Windlass Harfield's Patent Pall Bitt

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
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 1/8 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 4 ins. from centre to centre.
Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 7/8 in. diameter averaging 4 ins. from centre to centre.
Butts of 3 Strakes at Bilge for 1/2 length, treble riveted with Butt Straps 1/6 thicker than the plates they connect.
Edges from bilge to Main Sheerstrake, worked clencher, double riveted; with rivets 7/8 in. diameter, averaging 4 ins. from cr. to cr.
Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 7/8 in. diameter, averaging 4 ins. from cr. to cr.
Edges of Main Sheerstrake, double 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 5 1/4 Breadth of laps of plating in single riveting

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double riveted?
Waterway, how secured to Beams Gutter (Explain by Sketch, if necessary.)
Beams of the various Decks, how secured to the sides? By knees turned down No. of Breasthooks, 5 } Crutches, 4 }
What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Best
Manufacturer's name or trade mark, Frames Mossend, Plates Glasgow Iron Co., other angles Rochsoltloch
The above is a correct description.
Builder's Signature, A. S. Inglis Surveyor's Signature, Samuel Lanthorn
Surveyor to Lloyd's Register of British and Foreign Shipping

IRON 4750290

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? *A few* 19892 In

Masts, Bowsprit, Yards, &c., are *all* 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 *Three masts, Ship rigged.*
Bowsprit - 30' at 20' cap, 23' at outboard, 19' at 10' cap, 15' at 5' cap, 11' at 2' cap, 7' at 0' cap. 23' at outboard, 19' at 10' cap, 15' at 5' cap, 11' at 2' cap, 7' at 0' cap. 23' at outboard, 19' at 10' cap, 15' at 5' cap, 11' at 2' cap, 7' at 0' cap.
Extra Beat Best
Boiler Iron, Glasgow
Iron Co. Motherwell
Hot and well treated
Fore Mast - 80' 10 1/2" x 28" - 23' 1/2" - 19' 1/2" - 15' 1/2" - 11' 1/2" - 7' 1/2" - 3' 1/2"
Main Mast - 83' 5" x 28" - 23' 1/2" - 19' 1/2" - 15' 1/2" - 11' 1/2" - 7' 1/2" - 3' 1/2"
Mizen Mast - 77' 7 1/2" x 23 1/2" - 19' 1/2" - 15' 1/2" - 11' 1/2" - 7' 1/2" - 3' 1/2"
Yards - Fore & Main lower 11' 1/2" x 15 1/2" - 2' 1/2" - 15' 1/2" - 11' 1/2" - 7' 1/2" - 3' 1/2"
Foremast Crossjack - 6' 3" x 15 1/2" - 2' 1/2" - 15' 1/2" - 11' 1/2" - 7' 1/2" - 3' 1/2"
Steb - Lower topsail - 6' 7" x 15 1/2" - 2' 1/2" - 15' 1/2" - 11' 1/2" - 7' 1/2" - 3' 1/2"

NUMBER for EQUIPMENT 17853		Fathoms.	Inches.	Test per Certificate.	Length & Size req'd per Rule.	Test req'd per Rule.	ANCHORS. N°.	Weight. Ex. Stock.	Test per Certificate.	Wght req'd per Rule.	Test req'd per Rule.
N°.	SAILS.	CABLES, &c.					Bowers				
Fore Sails,	Fore Top Sails,	Fore Topmast Stay Sails	Fore Mast	80' 10 1/2" x 28"	23' 1/2" - 19' 1/2" - 15' 1/2" - 11' 1/2" - 7' 1/2" - 3' 1/2"	59 1/8	Stock	32, 0, 24	30, 5, 1, 0	32	30 7/20
Main Sails,	Main Top Sails,	Main Mast	83' 5" x 28"	23' 1/2" - 19' 1/2" - 15' 1/2" - 11' 1/2" - 7' 1/2" - 3' 1/2"	59 1/8	82 3/4	Stock	32, 0, 26	30, 6, 1, 0	32	30 7/20
and							Stock	27, 1, 12	26, 13, 0, 0	27 1/4	26 10/20
							Total	91, 3, 6	Total	91 1/4	
							Stream	12, 3, 20	12, 13, 0, 0	13	
							Kedges	6, 1, 24	7, 14, 0, 0	6 1/2	
								3, 1, 10	5 1/4	3 1/4	

Standing and Running Rigging *Wire & Hemp* sufficient in size and *good* in quality. She has *Four* Boats (2 with buoyancy)
The Windlass is *Good* Capstan *Good* and Rudder *Good* Pumps *Good* (dramas)

Engine Room Skylights.—How constructed? — How secured in ordinary weather? —

What arrangements for deadlights in bad weather? —

Coal Bunker Openings.—How constructed? — How are lids secured? — Height above deck? —

Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? *4 scuppers, 4 water ports, and 2 side pipes each side*

Cargo Hatchways.—How formed? *Plate and angle iron*

State size Main Hatch *16' x 11' 6"* Forehatch *6' 3" x 6' 0"* Quarterhatch *6' 3" x 6' 0"*

If of extraordinary size, state how framed and secured? —

What arrangement for shifting beams? —

Hatches, If strong and efficient? *Yes*

Order for Special Survey No. <i>1218</i>	1st. On the several parts of the frame, when in place, and before the plating was wrought	1876 - Decr 19, 23, 26, 28
Date <i>Jan 21/76</i>	2nd. On the plating during the process of riveting	1877 Jan'y 9, 13, 16, 20, 23, 26, 31, Feb. 1, 12, 13, 16, 21
Order for Ordinary Survey No. <i>134</i>	3rd. When the beams were in and fastened, and before the decks were laid....	Feb'y 22, 27, March 1, 2, 6, 7, 12, 15, 16, 20, 21, 26
Date <i>Jan 21/76</i>	4th. When the ship was complete, and before the plating was finally coated or cemented....	April 2, 4, 7, 10, 12, 17, 20, 27, May 1, 7, 10, 11, 14
No. <i>134</i> in builder's yard.	5th. After the ship was launched and equipped	May 21, 31, June 12, 15, 22, 24, 30, July 2, 12
		Aug. 3, 7, 14, 22, 27, Sep 3, 8, 19, 20, 21, 25, 28
		Oct 2, 3, 4, 29, Nov. 5, 6, 9, 12, 15, 21, 28
		Decr 13, 14, 21/76

General Remarks (State quality of workmanship, &c.)

The workmanship is of good quality. Built in accordance with the approved sketch of midship section herewith and generally in conformity with the Rules with a view to the grade contemplated.

The longitudinal arrangements are as nearly similar as practicable as in the ships "Loch Tyne", "Loch Long" and "Loch Ryan", vessels of about the same principal dimensions recently built here for the same Owners

Fitted with Poop 44 feet long, Forecastle 37 feet long, House amidships 36' x 19'

State if one, two, or three, decked vessel, or if spar, or running decked; and the lengths of poop, forecastle, or raised quarter deck, and the length of double, or part double bottom.

How are the surfaces preserved from oxidation? Inside *Cement and Paint* Outside *Paint*

I am of opinion this Vessel should be Classed *100 A 1*

The amount of the Entry Fee ... £ 5 : : : is received by me, *Dec 27th*

Special ... £ 55 : 14 : Decr 1877

Certificate ... *Gratis*

(Travelling Expenses, if any, £ ...)

Committee's Minute 28th December, 1877.

Character assigned *100 A 1*

This vessel appears eligible to be classed as recommended by 100 A 1. Registered 28th Dec 1877