

IRON SHIP

28th Dec 82

No. 8382 Survey held at Port Glasgow Date, First Survey 2nd May 82 Last Survey 22nd Dec 1882

On the Ship **Clan Mackenzie** Master **J. Ewan**

TONNAGE under Tonnage Deck **1532.99** **ONE OR TWO DECKED, THREE DECKED VESSEL.** Built at **Port Glasgow**

Ditto of Third, Spar, or Awning Deck. **75.03** **HALF BREADTH** (moulded) **19.0** When built **1882** Launched **30th Nov 1882**

Ditto of Poop, or Raised Or. Dk. **17.32** **DEPTH** from upper part of Keel to top of Upper Deck Beams **25.25** By whom built **Robt Dunlop & Co**

Ditto of Houses on Deck **17.32** **GIRTH** of Half Midship Frame (as per Rule) **39.33** Owners **Robt Dunlop & Co**

Ditto of Forecastle **59.12** 1st Number **83.58** Residence **Corn Exchange Glasgow**

Gross Tonnage **1684.46** 1st Number, if a 3-Decked Vessel deduct 7 feet **1677.46** Port belonging to **Glasgow**

Less Crew Space **87.05** Length **248.5** Destined Voyage **San Francisco**

Less Engine Room **1597.41** 2nd Number **20769.6** If Surveyed while Building, Afloat, or in Dry Dock. **Whilst Building & afloat**

Register Tonnage as cut on Beam **1597.41** Proportions— Breadths to Length **6.84** Depths to Length— Upper Deck to Keel **9.8** Main Deck ditto **9.8**

LENGTH on deck as per Rule	Feet. Inches.	BREADTH— Moulded	Feet. Inches.	DEPTH top of Floors to Upper Deck Beams Do. do. Main Deck Beams	Feet. Inches.	Power of Engines	Horse.	N ^o . of Decks with flat laid	N ^o . of Tiers of Beams
248	6	38	0	25	2 1/2			Two	Two

Dimensions of Ship per Register, length **259.45** breadth, **38.2** depth, **23.05**.

	Inches in Ship.	Inches per Rule.	Inches in Ship.	Inches per Rule.	Inches in Ship.	Inches per Rule.			
KEEL , depth and thickness	9 1/2 x 2 1/2	9 1/2 x 2 1/2	9 1/2 x 2 1/2	9 1/2 x 2 1/2	9 1/2 x 2 1/2	9 1/2 x 2 1/2	Flat Keel Plates, breadth and thickness	36 12	36 12
STEM , moulding and thickness	9 x 2 1/2	9 x 2 1/2	9 x 2 1/2	9 x 2 1/2	9 x 2 1/2	9 x 2 1/2	PLATES in Garboard Strakes, br'dth & thickness	10 11	10 11
STERN-POST for Rudder do. do.	9 x 2 1/2	9 x 2 1/2	9 x 2 1/2	9 x 2 1/2	9 x 2 1/2	9 x 2 1/2	From Garboard to upper part of Bilges	11 12	11 12
" " for Propeller	24	24	24	24	24	24	Of d'bling at Bilge, or increased thickness, and length applied	10 11	10 11
Distance of Frames from moulding edge to moulding edge, all fore and aft	24	24	24	24	24	24	From up. prt of Bilge to lr. edge of Sh'rstrake	10 11	10 11
FRAMES , Angle Iron, for 1/3 length amidships	5 3/2 x 8	5 3/2 x 8	5 3/2 x 8	5 3/2 x 8	5 3/2 x 8	5 3/2 x 8	Main Sheerstrake, breadth and thickness	40 13	40 13
Do. for 1/2 at each end	5 3/2 x 7	5 3/2 x 7	5 3/2 x 7	5 3/2 x 7	5 3/2 x 7	5 3/2 x 7	Of d'bling at Sh'stk. & lng. applied		
REVERSED FRAMES , Angle Iron	3 1/2 x 8	3 1/2 x 8	3 1/2 x 8	3 1/2 x 8	3 1/2 x 8	3 1/2 x 8	From M'n. to Up. or Spar Dk. Sh'rstrake		
FLOORS , depth and thickness of Floor Plate at mid line for half length amidships	2 1/2 x 10	2 1/2 x 10	2 1/2 x 10	2 1/2 x 10	2 1/2 x 10	2 1/2 x 10	Up. or Spar Dk Sh'rstrake, br'dth & thicken' ss.	10 12	10 12
thickness at the ends of vessel	9 1/2	9 1/2	9 1/2	9 1/2	9 1/2	9 1/2	Butt Straps to outside plating, breadth & thickness	8 10	8 10
depth at 1/2 the half-b'dth. as per Rule	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	Lengths of Plating	5 7	5 7
height extended at the Bilges	4 9	4 9	4 9	4 9	4 9	4 9	Shifts of Plating, and Stringers	2 13	2 13
BEAMS , Upper, Spar, or Awning Deck	9	9	9	9	9	9	Gunwale Plate on ends of Awning Spar, or Upper Deck Beams, breadth and thickness	36 10	36 10
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	3 1/2 x 7	3 1/2 x 7	3 1/2 x 7	3 1/2 x 7	3 1/2 x 7	3 1/2 x 7	Angle Iron on ditto	5 1/2 x 4 x 9	5 1/2 x 4 x 9
Single or double Angle Iron on Upper edge	48	48	48	48	48	48	Tie Plates fore and aft, outside Hatchways	14 10	14 10
Average space	48	48	48	48	48	48	Diagonal Tie Plates on Beams No. of Pairs	6	6
BEAMS , Main, or Middle Deck							Flat of Up., Spar, or Awning Dk	4	4
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron							How fastened to Beams	9	9
Single, or double Angle Iron, on Upper Edge							Stringer Plate on ends of Main or Middle Deck		
Average space							Beams, breadth and thickness		
BEAMS , Lower Deck							Is the Stringer Plate attached to the outside plating?		
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	9	9	9	9	9	9	Angle Irons on ditto, No.	Fillam	
Single or double Angle Iron on Upper Edge	3 1/2 x 7	3 1/2 x 7	3 1/2 x 7	3 1/2 x 7	3 1/2 x 7	3 1/2 x 7	Tie Plates, outside Hatchways	3 1/2	3 1/2
Average space	48	48	48	48	48	48	Diagonal Tie Plates on Beams, No. of pairs	2 7/8	2 7/8
BEAMS , Hold, or Orlop							Flat of Middle Deck* do.		
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron							How fastened to Beams		
Single or double Angle Iron on Upper Edge							Stringer Plates on ends of Lower Deck, Hold or Orlop Beams	35 9	35 9
Average space							Is the Stringer Plate attached to the outside plating?	Yes	
KEELSONS Centre line, single or double plate, box, or intercostal, plates on floor	18	18	18	18	18	18	Angle Irons on ditto, No.	2	
" Rider Plate	12	12	12	12	12	12	Stringer or Tie Plates, outside Hatchways	14 9	14 9
" Full Plate to Intercostal Keelson	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	Flat of Lower Deck* Part laid of Y.P.	3	3
" Angle Irons	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	Ceiling betwixt Decks, thickness and material	2	2
" Double Angle Iron Side Keelson	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	" in hold do.	2 1/2	2 1/2
" Side Intercostal Plate							Main piece of Rudder, diameter at head	6 1/4	6 1/4
" do. Angle Irons							do. at heel	5 1/2	5 1/2
" Attached to outside plating with angle iron	3 x 3 x 7	3 x 3 x 7	3 x 3 x 7	3 x 3 x 7	3 x 3 x 7	3 x 3 x 7	Can the Rudder be unshipped afloat?	Yes	
BILGE Angle Irons	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	Bulkheads No. One No. per Rule		
" do. Bulb Iron							" Thickness of	7 1/2	
" do. Intercostal plates riveted to plating for length							" Height up upper deck		
LG E STRINGER Angle Irons	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	" How secured to sides of ship	Double Frames	
Intercostal plates riveted to plating for length							" Size of Vertical Angle Irons	3 1/2 x 3 1/2 x 9	and distance apart 30 ins.
DE STRINGER Angle Irons	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	5 1/2 x 4 x 9	" Are the outside Plates doubled two spaces of Frames in length?	Yes	

The **FRAMES** extend in one length from **Keel** to **summit** Riveted through plates with **7/8** in. Rivets, about **1/2** in. apart.

The **REVERSED ANGLE IRONS** on floors and frames extend **from middle line to upper & lower stringer** and to **outside frame** alternately

KEELSONS. Are the various lengths of Plates and Angle Irons properly connected? **Yes** And butts properly shifted? **Yes**

LATING. Garboard, double riveted to Keel, with rivets **1 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 **3 3/4** ins. from centre to centre.

Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets **7/8** in. diameter averaging **3 1/2** ins. from centre to centre.

Butts of **Two** 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 **or single** riveted; with rivets **7/8** in. diameter, averaging **3 1/4** ins. from cr. to cr.

Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets **7/8** in. diameter, averaging **3 1/2** 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 **half** length amidships.

Butts of Main Stringer Plate, treble riveted for **1/2** length amidships. Butts of Upper **or Spar** Stringer Plate, treble riveted for **half** length.

Breadth of laps of plating in double riveting **5 1/2** Breadth of laps of plating in single riveting **1/2**

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? **Orb. Orb.** No. of Breasthooks, **Five** Crutches, **Four**

What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? **Good**

Manufacturer's name or trade mark, **Angels & Bulbs - Coats; Plates Middleboro**

The above is a correct description

Builder's Signature, **Robt Dunlop & Co** Surveyor's Signature, **J. D. ...** Surveyor to Lloyd's Register of British and Foreign Shipping.

Form No. 1 for Iron Ships

State clearly where plating is of alternate thickness—as distinguished from diminished thickness at ends of vessel.

* If Iron Deck, state if whole or part, and if wood deck is laid thereon.

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? *Yes a few*

Masts, Bowsprit, Yards, &c., are of *Iron & 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 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. *Yes*
 State also Length and Diameter of Lower Masts and Bowsprit *manufactured at W. Bartlepool*

Fore Mast 88.6 31x8 1/2, 27 1/2 x 6 1/2, 24 x 6 1/2, 20 x 6 1/2
 Main 89.7 30 x 8 1/2, 25 x 6 1/2, 23 x 6 1/2, 19 x 6 1/2
 Mizzen 85.3 30 x 8 1/2, 25 x 6 1/2, 23 x 6 1/2, 19 x 6 1/2
 Bowsprit 24.0 31 x 8 1/2, 25 x 8 7/8, 20 x 6 1/2

Diagrams formed with 3 plates & 3 angle, the fore main main capstern 4 x 3 x 1/2 and the main 3 x 3 x 1/2. Edges double riveted. Plate 1/2" double riveted & outer members 1/2". Double at every joint. Bowsprit formed with 3 plates in the round & 4 angles 4 x 3 1/2 x 1/2. Diaphragm plate 10 1/2 x 9 1/2. Edges double riveted to hull & 4 double riveted.

NUMBER for EQUIPMENT		Fathoms.	Inches.	Test per Certificate	Inches per Rule.	Machine where Tested & Suprntd.	ANCHORS.	N ^o .	Weight.	Test per Certificate	W'ght req'd per Rule.	Machine where Tested & Suprntd.
SAILS.												
CABLES, &c.												
N ^o .	Chain	135 1/2	1 1/4	6 1/2	9 1/2	270 2 1/2	Bower Anchors	7213	37-8-13	33-16-3-4	36-2-0	
Fore Sails,	Iron Stream Chain	135	1 1/4	30 1/2	30 1/2	75-1 1/2	7207	36-1-9	33-6-3-0			
Fore Top Sails,	or Steel Wire						7215	30-3-8	29-5-0-0			Chesler
Fore Topmast Stay Sails,	or Hempen Strm Cable						Total	104-1-2	Total	104-0-0		A.S. Jacke
Main Sails,	Towline, Hemp.	90	1 1/2			90-11	Stream Anchor	7214	11-2-15	13-10-1-0	11-1-0	
Main Top Sails,	or Steel Wire						Kedge	7220	5-2-26	8-0-2-0	5-2-0	
and others	Hawser	00	10 1/2			90-10 1/2	2nd Kedge	7221	9-3-19	5-8-3-0	3-3-0	
	Warp	90	6 1/2			90-6 1/2						

Standing and Running Rigging *Wire & Manilla* sufficient in size and *good* in quality. She has *two* Long Boats and *2* others.
 The Windlass is *good* Capstan *good* and Rudder *good* Pumps *good* sufficient

Engine Room Skylights—How constructed? *Yes* How secured in ordinary weather? *Yes*

What arrangements for deadlights in bad weather? *Yes*

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

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

Cargo Hatchways.—How formed? *Common plates 33 x 9 1/2 rusted to beams and half beams.*

State size Main Hatch *15-10 x 10-0* Forehatch *8 1/2 x 6 1/2* Quarterhatch *8-0 x 7-0*

If of extraordinary size, state how framed and secured? *Ordinary size.*

What arrangement for shifting beams? *A shifting beam in the main & strong fore & after main.*

Hatches, if strong and efficient? *Yes. 3 in solid.*

Order for Special Survey No. *1091* Date *3rd Feby 1882*

Order for Ordinary Survey No. *185* in builder's yard. DATES of Surveys held while building as per Section 18.

1st. On the several parts of the frame, when in place, and before the plating was wrought } *Specially Surveyed 1882:—*
 2nd. On the plating during the process of riveting } *May 2, 15, 22, 30; June 5, 7, 9, 19; July 13, 14, 21, 27;*
 3rd. When the beams were in and fastened, and before the decks were laid... } *Augt 4, 10, 18, 23, 30, 31; Sept 7, 11, 21; Oct 4, 6, 10, 17, 20, 24, 27;*
 4th. When the ship was complete, and before the plating was finally coated or cemented. } *Novr 6, 10, 13, 20, 30; Decr 4, 6, 15, 22*
 5th. After the ship was launched and equipped

General Remarks (State quality of workmanship, &c.) *Quality of materials & workmanship good*

This vessel has been constructed in accordance with the accompanying approved sketches of midship section & deck plans and in all other respects with the Rules.

State if one, two, or three decked vessel, or if spar, or awning decked; and the lengths of poop, bridge, forecabin, or raised quarter deck. (If double bottom, state particulars on separate sheet.)
 How are the surfaces preserved from oxidation? Inside *Cement & 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, *J. Dawkins*

Special ... £ 64 : 18 : 6 *23/12/1882*
 Certificate ... *Gratis*

(Travelling Expenses, if any, £ ...).
 Committee's Minute *Friday, 23rd December, 1882.*

Character assigned *TRIM OPA*

Reference should be made to any correspondence connected with the case.

