

# IRON OR STEEL SHIP.

(Received at London Office, 9415)

No. **9415** Survey held at **Glasgow** Date of writing Report **5<sup>th</sup> Oct. 1889** Port of **Glasgow**  
 On the **S.S. Mangara** Date, First Survey **Dec. 4<sup>th</sup> 1888** East Survey **4<sup>th</sup> Sept. 1889**  
 Rig **Schooner** Master **A. Albrechtson**

**TONNAGE** under Tonnage Deck **1270.23**  
 Do. between Tonnage Dk. and 3rd, 4th, Spar or Awning Dk.  
**Total under Upper Dk.**  
 Do. of Poop **66.63**  
 Do. of Raised Qr. Dk. or Break **42.24**  
 Do. of Bridge House **335.16**  
 Do. of Houses on Deck **18.57**  
 Do. of excess of Hatchways **12.43**  
 Do. of Forecastle **39.15**  
**Gross Tonnage** **1784.41**  
 Less Crew Space **56.79**  
**1727.62**  
 Less Engine Room **571.01**  
 Register Tonnage as cut on Beam **1156.61**

**ONE, OR TWO DECKED, THREE DECKED VESSEL,**  
~~SPAR, OR AWNING DECKED VESSEL.~~  
**Half Breadth** (moulded) **18.29**  
**Depth** from upper part of Keel to top of Upper Deck Beams **19.87**  
**Girth of Half Midship Frame** (as per Rule) **33.84**  
**1st Number** **72.00**  
~~1st Number, if 2 Decked Vessel deduct 7 feet~~  
**Length** **258.58**  
**2nd Number** **18617**  
**Proportions** Breadths to Length **7.06**  
 Depth to Length—Upper Deck to Keel **13.01**  
 Main Deck ditto **double bottom**

Year of appointment **1886**  
 Built at **Glasgow**  
 When built **1889** Launched **24<sup>th</sup> Sept.**  
 By whom built **A. Stephen & Sons**  
 Owners **(Murray & MacIntyre)**  
 Managers **S.S. Mangara Co. Ltd.**  
 (If desired to be entered in Reg. Book)  
 Residence **Glasgow**  
 Port belonging to **Glasgow**  
 Destined Voyage **Reghorn**  
 If Surveyed while Building, Afloat, or in Dry Dock.  
 Built under Special Survey

**LENGTH** on deck as per Rule **258 7** **BREADTH** Moulded **36 7** **DEPTH** top of Deck Beams to Upper Deck Beams **16 8 1/2** **Power of Engines** **170** **Horse.** **170** **No. of Decks with flat laid** **One** **No. of Tiers of Beams** **One**

Dimensions of Ship per Register, length, **260.0** breadth, **36.8** depth, **16.6** Moulded depth **19.2**

**KEEL**, depth and thickness **8 1/2 x 2 1/2**  
**STEM**, moulding and thickness **8 1/2 x 2 1/2**  
**STERN-POST** for Rudder do. do. **8 1/2 x 5**  
 " " for Propeller **8 1/2 x 5 1/2**  
 Distance of Frames from moulding edge to moulding edge, all fore and aft  
 Frames in double bottom, at bilgeheads, and abaft after bulkhead **4 1/2 x 3 1/2**  
**FRAMES**, Angle Iron, for 1/2 length amidships **7 3 8**  
 Do. for 1/2 at each end **7 3 7**  
**REVERSED FRAMES**, Angle Iron **3 3 7**  
**FLOORS**, depth and thickness of Floor Plate at mid line for half length amidships **Double bottom as per section**  
 " thickness at the ends of vessel **as per section**  
 " depth at 3/4 the half-bdth. as per Rule **as per section**  
 " height extended at the Bilges **as per section**

**BEAMS**, Upper, Spar, or Awning Deck Single or double Angle Iron, Plate or Tee Bulb Iron **7 3 10 7 3 10**  
 Single or double Angle Iron on Upper edge **24 24**  
 Average space **24**  
**BEAMS**, Main, or Middle Deck Single or double Angle Iron, Plate or Tee Bulb Iron **7 3 10 7 3 10**  
 Single or double Angle Iron on Upper edge **24 24**  
 Average space **24**  
**BEAMS**, Lower Deck Single or double Angle Iron, Plate or Tee Bulb Iron **7 3 10 7 3 10**  
 Single or double Angle Iron on Upper edge **24 24**  
 Average space **24**  
**BEAMS**, Hold, or Orlop Single or double Angle Iron, Plate or Tee Bulb Iron **7 3 10 7 3 10**  
 Single or double Angle Iron on Upper edge **24 24**  
 Average space **24**

**KEELSONS** Centre line, single or double plate, box, or Intercoastal, Plates **Cellular double bottom as per approved section**  
 " Rider Plate **as per section**  
 " Bulb Plate to Intercoastal Keelson **as per section**  
 " Angle Irons **as per section**  
 " Double Angle Iron Side Keelson **as per section**  
 " Side Intercoastal Plate **as per section**  
 " do. Angle Irons **as per section**  
 " Attached to outside plating with angle iron **as per section**  
**BILGE** Angle Irons **as per section**  
 " do. Bulb Iron **as per section**  
 " do. Intercoastal plates riveted to plating for length **as per section**  
**BILGE STRINGER** Angle Irons **as per section**  
 Intercoastal plates riveted to plating for whole length **as per section**  
**SIDE STRINGER** Angle Irons **as per section**  
 Intercoastal plates **as per section**

The **FRAMES** extend in one length from bilge to bilge thence to upper deck Riveted through plates with **7** in. Rivets, about **7** apart.  
 The **REVERSED ANGLE IRONS** on floors and frames extend from middle line to upper side stringer and to upper deck alternately  
**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** in. diameter, averaging **4** ins. from centre to centre.  
 " Edges of Garboards and to upper part of Bilge, worked clench, double riveted; with rivets **7/8** in. diameter, averaging **3 1/2** 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 all Strakes at Bilge for half length, treble riveted with Butt Straps **3/20** thicker than the plates they connect.  
 " Edges from Bilge to Main Sheerstrake, worked clench, double or single riveted; with rivets **7/8** in. diameter, averaging **3 1/2** 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 whole length amidships. **Butts of Upper or Spar Sheerstrake, treble riveted for whole length amidships.**  
 " Butts of Main Stringer Plate, treble riveted for half length amidships. **Butts of Upper or Spar Stringer Plate, treble riveted for half length amidships.**  
 " Breadth of laps of plating in double riveting **6 1/2** Breadth of laps of plating in single riveting **6 1/2**

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? **Treble & double** No. of Breasthooks, **Seven** Crutches, **Three**  
 What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? **Siemens Steel**  
 Manufacturer's name or trade mark, **Hallside, Mossend, and Dalzell.**  
 The above is a correct description.  
 Builder's Signature, **Alex. Stephen & Sons.** Surveyor's Signature, **J. Thomson**  
 Surveyed to Lloyd's Register of British and Foreign Shipping.

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.

(Form No. 1 for Iron or Steel Ships—1000—2/4/89—Transfer Ink.)



Workmanship. Are the butts of plating planed or otherwise fitted? *Planed* 9415 g/s.  
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 in the butts.*  
Masts, Bowsprit, Yards, &c., are *Steel and pine* 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 *Two steel pole masts, as per accompanying approved tracing. Plates stamped Messrs. C.*

Number for Equipment 20692	CABLES, &c.				Test per Certificate Tons.	Fathoms & Inches per Rule.	Machine where Tested and Superintendent, also Name of Chain Maker.	ANCHORS.				Weight Ex. Stock.	Test per Certificate	Weight req'd per Rule.	Machine where Tested and Superintendent, also Name of Anchor Maker.
	Number of Certificate.	Fathoms.	Inches.					Number of Certificate (State if any and Name of Anchor Maker).							
Letter for do. <i>g</i>	1128	135 1/2	1 1/8	7 1/2	4 5 1/2	270 1/2	<i>Glasgow</i>	19010				34-3-5	32-5-2-14	34-2-2	<i>Sunderland</i>
N <sup>o</sup> . <i>g</i>	1129	134 1/2	1 1/8				<i>S. Taylor &amp; Sons</i>	19011				34-2-22	32-3-3-0	34-2-2	<i>Newcastle</i>
SAILS.								19013				29-2-3	28-6-3-14	29-1-14	<i>J. Hartman &amp; H. J. Boulds.</i>
Fore Sails,															<i>Spencer &amp; Sons</i>
Fore Top Sails,															
Fore Topmast Stay Sails,															
Main Sails,															
Main Top Sails, and quality <i>Good</i>															
Iron Stream Chain or Steel Wire 1180	75	1 1/2	30 3/4	4	20 3/4	75-1 1/2									
Hempen Six'm Cable															
TOWLINE—Hemp or Steel Wire	90	3 1/2		26		90-3 1/2									
Hawser	90	3		18		90-9 Hemp.									
Warp	90	7				90-7									

Standing and Running Rigging is *wire & hemp* sufficient in size and *good* in quality. She has *1 Rigger* Boat and *2 others.*

The Windlass is *Clark, Chapman & Co.* Capstan and Rudder *Good* Pumps *Good*

Engine Room Skylights.—How constructed? *Leak on trunk bulkhead* How secured in ordinary weather? *Bolted.*

What arrangements for deadlights in bad weather? *Leak shutters fitted with bulls eyes.*

Coal Bunker Openings.—How constructed? *Iron comings* How are lids secured? *By hatch bars.* Height above deck? *13"*

Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? *On each side two ports 53" x 14" and two mooring pipes in each well.*

Cargo Hatchways.—How formed? *Of plates and angles fitted in the usual manner.* Hatches, If strong and efficient? *Solid 3" pine*

State size Main Hatches *28-0 x 12-0 & 18-0 x 12-0* Fore hatch *14-0 x 10-0* Quarter hatch *22-0 x 14-0*

If of extraordinary size, state how framed and secured... *In the fore hatch 1 deep well plate and 1 fore & after, in each of the two large hatchways 2 well plates and 3 fore & after, and in 16-0 hatch 1 well plate and 3 fore & after.* What arrangement for shifting beams?

Order for Special Survey No. *2224* 1st. On the several parts of the frame, when in place, and before the plating was wrought } 1888:—Dec. 4, 6, 11, 13, 21, 26. 1889:—Jan. 11, 15, 18.  
Date *10<sup>th</sup> Oct. 1888* 2nd. On the plating during the process of riveting } 22, 28, 31. Feb. 4, 7, 11, 13, 15, 19, 22, 26. Mar. 2, 5, 7.  
Order for Ordinary Survey No. *1* 3rd. When the beams were in and fastened, and before the decks were laid... } 11, 18, 20, 26, 28, 29. April 2, 5, 16, 19, 23, 25. May 1, 8, 10.  
Date *10<sup>th</sup> Oct. 1888* 4th. When the ship was complete, and before the plating was finally coated or cemented... } 13, 16, 20, 23, 29, 31. June 4, 7, 12, 17, 21, 26. July 1, 5, 9, 24, 29.  
No. *320* in builder's yard. 5th. After the ship was launched and equipped } Aug. 1, 5, 8, 12, 15, 19, 22, 26, 28. Sept. 3, 6, 10, 12, 16. Total No. of Visits *75*  
State dates of letters respecting this case *Secretary's 12<sup>th</sup> & 20<sup>th</sup> Sept., 20<sup>th</sup> Oct., and 14<sup>th</sup> Dec. 1888.*

General Remarks (State quality of workmanship, &c.) *The workmanship throughout is of the best quality.*

*This vessel is built of steel in accordance with the approved tracing of midship section and profile forwarded to London on the 2<sup>nd</sup> Oct. 1889, the Secretary's letters referred to above, and in general conformity with the Rules for the Class contemplated.*

*The Freeboard assigned by the Committee per Secretary's letters of the 19<sup>th</sup> & 23<sup>rd</sup> Sept. 1889 has been marked on the sides of the vessel in accordance with Notice L: 572 Viz:—In winter 1-8 and summer 1-5 from top of steel deck. Fresh water line 5" above centre of Disc.*

How are the surfaces preserved from oxidation? Inside *By cement and paint* Outside *By paint*

Particulars for Record in R.B.—Length of Poop *28* ft., R.Q.D. *32* ft., Bridge Dk. *140* ft., F'castle *31* ft.; No. of Dks. (excluding spar, awn., &c.) *One*  
Material of dks. *Steel* If spar, awn. dk., &c. *✓* Material of spar, awn. dk., &c. *✓*; No. of tiers of beams (with and without dks. laid) *One*;  
Official No. *96092*; Signal Letters *✓* *✠* double bottom, state particulars on separate form.

I am of opinion this Vessel should be Classed *✠ 100 A. 1. with record of Freeboard.*

The amount of the Entry Fee .....£ *4* : : : is received by me, *(Signature)*  
Special .....£ *68* : 4 : : *4/10/ 1889*

(to be sent as per margin). Certificate

(Travelling Expenses, if any, £

Committee's Minute *FRIDAY 11 OCT 1889*

Character assigned *100 A 1 Steel*

+ Lmb 10/89

LA 2CB

*100 A 1 Steel*

*100 A 1 Steel*

*100 A 1 Steel*

*100 A 1 Steel*

*100 A 1 Steel*

Surveyor to Lloyd's Register of British and Foreign Shipping.

*It is submitted that this vessel*

*appears eligible to be classed*

*100 A. 1. (Steel) as recommended*

*100 A. 1. (Steel) & Deep Framing*

*Cell D. B. (particulars appended)*

*Full Dk.*

*10/10/89*