

STEEL SHIP

(Reviewed at London Office)

No. *1117* Survey held at *Dumbarton* Date, First Survey *11 Dec 84* Last Survey *30 Dec 84* 1884
On the *Steel S.S. "Dainii"* *4 masts.*

TONNAGE under Tonnage Deck *3013.81*
Ditto of Third, Spar, or Awning Deck *1117.45*
Ditto of Poop, or Main Deck *192.04*
Ditto of Houses on Deck *894.94*
Ditto of Forecastle *84.97*
Gross Tonnage *5030.73*
Less Crew Space *189.96*
Less Engine Room *4840.77*
Register Tonnage as cut on Beam *1609.83*
2230.94

ONE, OR TWO DECKED, THREE DECKED VESSEL, *4131*
Half Breadth (moulded) *23.00*
Depth from upper part of Keel to top of Upper Deck Beams *38.16*
Girth of Half Midship Frame (as per Rule) *50.66*
1st Number *106.82*
1st Number, if a 3-Decked Vessel deduct 7 feet *7.00*
Length *99.82*
2nd Number *420.7*
2nd Number *41994*
Proportions— Breadths to Length *9.14*
Depths to Length— Upper Deck to Keel *12.6*
Main Deck ditto *16.6*

Master *W. Brown*
Built at *Dumbarton*
When built *1883-84* Launched *8 Sep 84*
By whom built *W. Denny & Bros*
Owners *Shaw, Savill & Albion Co., Ltd.*
Residence *34 Ludgohall St, London E.C.*
Port belonging to *Glasgow*
Destined Voyage *London for N. Zealand*
If Surveyed while Building, Afloat, or in Dry Dock. *While Building & afloat.*

LENGTH on deck as per Rule *420* Feet. *8* Inches. BREADTH Moulded *46* Feet. *0* Inches. DEPTH top of Floors to Upper Deck Beams *28* Feet. *11* Inches. Do. do. Main Deck Beams *21* Feet. *6* Inches. Power of Engines *800* Horse. N° of Decks with flat laid *3* N° of Tiers of Beams *3*

Dimensions of Ship per Register, length *439.6* breadth *46.35* depth *28.9* DEPTH Moulded *21.6*
KEEL, depth and thickness *2 side Bars Iron 10 x 1 7/16*
STEM, moulding and thickness *Steel 12 x 3 1/2*
STERN-POST for Rudder do. do. *Steel 12 x 8*
" " for Propeller *12 x 8*
Distance of Frames from moulding edge to moulding edge, all fore and aft *24 ins*

FRAMES, Angle Iron, for 1/2 length amidships *4 1/2 x 3 1/2*
Do. for 1/4 at each end *side fore 6 x 3 1/2*
REVERSED FRAMES, Angle Iron *4 x 3 1/2*
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships *Brackets 12*
" thickness at the ends of vessel *According to app 3*
" depth at 3/4 the half-bdth. as per Rule *Sketch of mid. sec*
" height extended at the Bilges *Sketch of mid. sec*

BEAMS, Upper, Spar, or Awning Deck Single or double Angle Iron, Plate or Tee Bulb Iron *9 1/2 16 9 1/2 16*
Single or double Angle Iron on Upper edge *48 ins 48 ins*
Average space *10 16 10 16*
BEAMS, Main, or Middle Deck Single or double Angle Iron, Plate or Tee Bulb Iron *10 16 10 16*
Single or double Angle Iron on Upper Edge *48 ins 48 ins*
Average space *10 16 10 16*

BEAMS, Lower Deck Single or double Angle Iron, Plate or Tee Bulb Iron *10 16 10 16*
Single or double Angle Iron on Upper Edge *48 ins 48 ins*
Average space *10 16 10 16*
BEAMS, Hold, or Orlop Single or double Angle Iron, Plate or Tee Bulb Iron *10 16 10 16*
Single or double Angle Iron on Upper Edge *48 ins 48 ins*
Average space *10 16 10 16*

KEELSONS Centre line, single or double plate, box, or intercostal plates *61 16 61 16*
" Rider Plate *42 16 42 16*
" Bulb Plate to intercostal keelson *4 4 15 4 4 15*
" Angle Irons *3 1/2 3 1/2 13 3 1/2 3 1/2 13*
" Double Angle Iron Side Keelson *3 1/2 3 1/2 13 3 1/2 3 1/2 13*
" 3 Side Intercostal Plate *girders*
" do. Angle Irons *3 1/2 3 1/2 13 3 1/2 3 1/2 13*
" Attached to outside plating with angle iron

BILGE Angle Irons *Cellular double*
" do. Bulb Iron *bottom principle of construction*
" do. Intercostal plates riveted to plating for length *bottom principle of construction*
BILGE STRINGER Angle Irons *6 1/2 4 1/2 16 6 1/2 4 1/2 16*
Intercostal plates riveted to plating for 3/5 length *15 15*

SIDE STRINGER Angle Irons *6 1/2 4 1/2 16 6 1/2 4 1/2 16*
The FRAMES extend in one length from *Bilge to Bilge & from Bilge to general* Riveted through plates with *7/8* in. Rivets, about *6* apart.
The REVERSED ANGLE IRONS on floors and frames extend *from middle line to Bilge from B. to up. str. for and 1/2 d. from midship* 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 *1/4* 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 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 *whole* length, treble riveted with Butt Straps *same* 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 1/2* 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 *same* 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.

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? *Yes & don.* No. of Breasthooks, *6* Crutches, *2* Dup. floors
What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? *"Parkhead", "Grossend", "Hallside", "Goats" & "Butcherly No. 1"*

Manufacturer's name or trade mark, *"Hallside", "Goats" & "Butcherly No. 1"*
The above is a correct description
Builder's Signature, *Wm Denny & Brothers* Surveyor's Signature, *J. D. Denny*
Surveyor to Lloyd's Register of British and Foreign Shipping.

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.*

Masts, Bowsprit, Yards, &c., are *Steel* 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.

State also Length and Diameter of Lower Masts and Bowsprit *The masts & bowsprit have been constructed in accordance with the approved tracing and the Secy's letter of the 5th Dec 1883. The steel used: Messena*
All steel tested at the Manufacturers Works by the Officers to this Society

N ^o .	SAILS.	CABLES, &c.	Fathoms.	Inches.	Test per Certificate.	Inches per Rule.	Machine where Tested & Suprntd.	ANCHORS.		N ^o .	Weight. Ex. Stock.	Test per Certificate.	Wght req'd per Rule.	Machine where Tested & Suprntd.
								Bower Anchors	Stream Anchor					
		Chain	150	2 1/2	12 1/2	300				8309	45-3-0	39-4-1-14	2-4-5	Chater
		(State Machine where Tested, Date, or No. of Certificate, & Name of Superintendent.)			9 1/8	of 2 1/2	Chater			8248	44-1-2-4	33-18-2-0	2-4-1 1/2	Chater
	Fore Sails,	Iron Stream Chain	90	1 1/2	4 2/3	90-1 1/2	A. J. Jack			8299	41-2-0	36-16-1-0	1 1/2	A. J. Jack
	Fore Top Sails,	or Steel Wire	90	1 1/2	4 2/3	90-1 1/2	A. J. Jack			8310	41-2-8	36-17-1-0	1 1/2	A. J. Jack
	Fore Topmast Stay Sails,	or Hempen Strm Cable	120	4 3/4	stee	120-4 3/4				8368	15-1-8	16-15-3-0	7 1/2	
	Main Sails,	Towline, Hemp	90	12	150-6	90-12				8311	7-1-8	9-12-2-0	3 1/2	
	Main Top Sails,	or Steel Wire	90	10	90-4	90-10				8312	3-2-2	5-19-1-0		
	and spare	Hawser	90	12	150-6	90-12								
	Standing and Running Rigging	Warp	90	10	90-4	90-10								
	The Windlass is	quality 9 th + colls	7	7	90-4	90-4								

The Windlass is *Paul's Patent* Capstan *good* and Rudder *9th* Pumps *good* Long Boat and 2 others *Steam launch*

Engine Room Skylights.—How constructed? *Iron on Iron Coamings* How secured in ordinary weather? *Bolts*

Coal Bunker Openings.—How constructed? *Through side of bulk* How are lids secured? *Bars* Height above deck? *✓*

Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? *4 Scuppers, 8 water ports and one mooring pipe*

Cargo Hatchways.—How formed? *As usual plate & angle*

State size Main Hatch *2-19-9 x 12ft* Forehatch *9-9 x 10ft* Quarterhatch *11-10 x 10ft*

If of extraordinary size, state how framed and secured? *one shifting web and three fore & afters*

What arrangement for shifting beams? *3 in large hatchways.*

Hatches, if strong and efficient? *Yes*

Order for Special Survey No. *1903* Date *23rd Oct 1883*

Order for Ordinary Survey No. *283* Date *23rd Oct 1883*

State dates of Letters respecting this case *11th 18th Oct; 1st Nov; 5th 30 Dec 1883; 4th 20 Feb 1884; 21, 25; Nov. 5, 11, 14, 18, 21, 25 28; Dec. 3, 5, 16, 19, 24 & 30.*

General Remarks (State quality of workmanship, &c.) *Specially Surveyed: 11th 18th Dec 11, 14, 18, 21, 25;*

The workmanship is good, and the vessel has been built in accordance with the six approved tracings attached herewith, and with the instructions contained in the letters above referred to, and otherwise in accordance with the Rules.

She is a sister vessel to the S. S. "Orawa", Glasgow Report N^o 6692, and like her she has a double bottom 366ft long, built on the cellular principle. And it is divided into 7 compartments, N^o 1 tank from aft is 46ft long & contains 58.6 tons of water; N^o 2-46ft & 91.4 tons; N^o 3-62ft & 80 tons; N^o 4-56ft & 77.2 tons; N^o 5-58ft & 65 1/2; N^o 6-48ft & 66 1/2 tons, and N^o 7-52ft & 54 tons, making a total of 829.5 tons. Each of these tanks was tested as required by the Rules & found satisfactory. The fore & after peaks were also filled with water & found satisfactory.

Forecastle 48ft & 10ft wings. Bridge 188ft fore end closed & after end has two W.T. swing doors. Poop-64ft & 8ft wings

State if one, two, or three decked vessel, or if spar, or awning decked; and the lengths of poop, bridge, forecastle, or raised quarter deck. (If double bottom, state particulars on separate form.)

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

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

The amount of the Entry Fee£ 5 : : is received by me, *J. Dodd*

Special£ 140 : : 6 15/11 1883

(to be sent as per margin). Certificate ...
 (Travelling Expenses, if any, £)

Committee's Minute
 Character assigned *100 A Steel*
J. Dodd
 Surveyor to Lloyd's Register of British and Foreign Shipping.