

IRON STEEL SHIP.

(Received at London Office,

9840,

Date of writing Report 14 May 1890

Port of Glasgow

WED 21 MAY 1890

Survey held at Dumbarton

Date, First Survey 17 Sept 1889

Last Survey 13 May

1890

the Steel Sewer "Rotokino"

Rig Schooner

GE under 1520.59
age Deck
Dk.
Spar or

ONE OR TWO DECKED, THREE DECKED VESSEL,
SPAR, OR AWNING DECKED VESSEL.

Master J. C. Arthur

Year of appointment (1) As master in service of owner of present vessel: 1890
(2) As master of this vessel: 1890

Built at Dumbarton

When built 1890 Launched 2 April 1890

By whom built W. Denny & Co.

Owners Union Steamship Co of New Zealand

Managers

(If desired to be entered in Reg. Book.)

Residence Dunedin

Port belonging to Dunedin

Destined Voyage New Zealand

If Surveyed while Building, Afloat, or in Dry Dock.

of 1 66.28
of 1 82.22
of 1 242.89
of 1 24.26
of 1 18.58
of 1 24.80
ge 2003.73
pace 77.18
Less Engine Room 641.19 740.82
Register Tonnage 1262.91
as out on Beam

Half Breadth (moulded) 18.75
Depth from upper part of Keel to top of Upper Deck Beams 22.55
Girth of Half Midship Frame (as per Rule) 37.95
1st Number 79.25
1st Number, if a 3 Decker Vessel deduct 7 feet
Length 268.5
2nd Number 21278
Proportions— Breadths to Length 7.16
Depths to Length— Upper Deck to Keel 11.9
Main Deck ditto

LENGTH on deck as per Rule 268 5 BREADTH Moulded 37 5 DEPTH top of Floors to Upper Deck Beams 22 5 Do. do. Main Deck Beams 18 9 1/2 Power of Engines 135 No. of Decks with flat laid 1 No. of Tiers of Beams 1 with frame

Dimensions of Ship per Register, length, 270.0 breadth, 37.75 depth, 18.75 Moulded depth 21.9
Inches in Ship. Inches per Rule. Flat Keel Plates, breadth and thickness 36 16 36 16
PLATES in Garboard Strakes, br'dth & thickness 46 12 36 12
From Garboard to upper part of Bilges 10.12 10.12
Of d'bling At Bilge, or increased thickness, 20 and length applied 25 strakes whole 25/4/89
From up. prt of Bilge to l.r. edge of Sh'rstrake 11.10 11.10
Main Sheerstrake, breadth and thickness 42 15 42 15
Of d'bling At Sh'stk. & lng. applied 18 ft at 10 10
From M'n. to Up. or Spar Dk. Sh'rstrake 19 x 19.17 40
Up. or Spar Dk. Sh'rstrake, br'dth & thickness 16 1/2 x 19.17 40
Butt Straps to outside plating, breadth & thickness 11 1/2 x 14 1/2 40
Lengths of Plating 8 frame spaces 9 1/4 x 14 1/2 40
Shifts of Plating, and Stringers 2.3 x 14 1/2 40
Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness 38 1/4 10 38 1/4 10
Angle Iron on ditto 4 1/2 x 4 1/2 x 1/2 4 1/2 x 4 1/2 x 1/2
Tie Plates fore and aft, outside Hatchways Diagonal Tie Plates on Beams No. of Pairs 6/20 6/20
Flat of Up., Spar, or Awning Dk. Steel How fastened to Beams Riveted.
Stringer Plate on ends of Main or Middle Deck Beams, breadth and thickness Is the Stringer Plate attached to the outside plating?
Angle Irons on ditto, No.
Tie Plates, outside Hatchways
Diagonal Tie Plates on Beams, No. of pairs
Flat of Middle Deck* do. do.
How fastened to Beams
Stringer Plates on ends of Lower Deck, Hold or Outlet Beams
Is the Stringer Plate attached to the outside plating?
Angle Irons on ditto, No.
Stringer or Tie Plates, outside Hatchways
Flat of Lower Deck*

AMES, Angle Iron, for 2 length amidships Do. for 1 at each end
VERSED FRAMES, Angle Iron
ORS, depth and thickness of Floor Plate mid line for half length amidships thickness at the ends of vessel depth at 2 the half-bdth. as per Rule height extended at the Bilges.
MS, Upper, Spar, or Awning Deck double Ang. Iron, Plate or Tee Bulb Iron double Angle Iron on Upper edge
Main, or Middle Deck double Ang. Iron, Plate or Tee Bulb Iron double Angle Iron on Upper edge
Lower Deck double Ang. Iron, Plate or Tee Bulb Iron double Angle Iron on Upper edge
MS, Hold, or Outlet double Ang. Iron, Plate or Tee Bulb Iron double Angle Iron on Upper edge
Average space.
KEELSONS Centre line, single or double plate, box, or Intercoastal, Plates Rider Plate Bulb Plate to Intercoastal Keelson Angle Irons Double Angle Iron Side Keelson Side Intercoastal Plate do. Angle Irons Attached to outside plating with angle iron
BILGE Angle Irons at fore end of hold do. Bulb Iron do. Intercoastal plates riveted to plating for length
BILGE STRINGER Angle Irons Intercoastal plates riveted to plating for length associated with web frames whole length
SIDE STRINGER Angle Irons

Cellular Double bottom as per approved plan attached.
Web frames 18 x 9/16 for 6 frame spaces apart in hold forward 4 to 5 spaces apart in aft hold and machinery space associated with two side stringers 2 1/2 x 8/16
10 10 10 10
4 4 9 4 4 9
240 240
Cellular Double bottom as per approved Sketch of midship section
2 1/2 8 2 1/2 8
3 1/2 3 1/2 7 3 1/2 3 1/2 7
2 1/2 8 2 1/2 8
The RAMES extend in one length from keel to margin plate and thence to fore wall
The REVERSED ANGLE IRONS on floors and frames extend from middle line to margin plate and thence to main R.R.D. 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 7/8 in. diameter, averaging 3 3/4 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 1 1/8 in. diameter, averaging 3 1/2 3 3/4 ins. from centre to centre.
Butts of all Strakes at Bilge for 1/2 length, treble riveted with Butt Straps 3/4 to 5/8 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 3/4 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 3 3/4 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 length amidships. Butts of Upper or Spar Sheerstrake, treble riveted 1/2 length amidships.
Butts of Main Stringer Plate, treble riveted for 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 or single Riveted No. of Breasthooks, 5 Crutches, deep floors
What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Good Frames R. Frames. Shell
Manufacturer's name or trade mark Dalgell Beam angles, Inner Bottom, Hallside, Bulbs, Downhaul Long.
The above is a correct description.
Builder's Signature, W. Denny & Co. Surveyor's Signature, J. Hearle
Surveyor to Lloyd's Register of British and Foreign Shipping.

6 ft fussell plates attaching beam to side
Stringer with knees above and below as shown on approved mid. sec.
Can the Rudder be unshipped afloat? Yes
Bulkheads No. 5 No. per Rule 4
Thickness of 2 1/2
Height up 7/8 upper deck
How secured to sides of ship By double frame angle
Size of Vertical Angle Irons 5 x 3 x 3/16 and distance apart 30 ins.
Are the outside Plates doubled two spaces of Frames in length? Yes
Riveted through plates with 7/8 in. Rivets, about 6 1/2 apart.
middle line to margin plate and thence to main R.R.D. alternately
Yes And butts properly shifted? Yes
3 3/4 ins. from centre to centre.
3 1/2 3 3/4 ins. from centre to centre.
3/4 to 5/8 thicker than the plates they connect.
3 3/4 ins. from cr. to cr.
3 1/2 3 3/4 ins. from cr. to cr.
double or single riveted.
double or single riveted.
1/2 length amidships.
1/2 length.
5 1/4 Breadth of laps of plating in single riveting
No. of Breasthooks, 5 Crutches, deep floors
Good Frames R. Frames. Shell
Dalgell Beam angles, Inner Bottom, Hallside, Bulbs, Downhaul Long.
W. Denny & Co. J. Hearle
Surveyor to Lloyd's Register of British and Foreign Shipping.

Form No. 1 for Iron or Steel Ships—500—28/2
State whether Rivets are of Iron or Steel.
GCS159-0381

Workmanship. Are the butts of plating planed or otherwise fitted? *Planed and fitted* 9840 Jls
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 only at the hatches.*

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 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

	Length to Head.	Heel.	Deck	Head
Fore Mast.	69' 9"	17 x 7/8	22 x 7/8	14 1/2 x 9/16
Main Mast.	62' 9"	16 x 7/8	20 x 7/8	12 1/2 x 7/8

Edge laps, single riveted. Butt straps, double riveted below deck 1/2" thicker than plates, treble riveted above deck 3/4" thicker than plates.

Number for Equipment 23044	CABLES, &c.			Test per Certificate. Tons.	Fathoms & Inches per Rule.	Machine where Tested and Name of Chain Maker.	ANCHORS. Number of Certificate (State if any and which Anchors are Stockless.)	Weight. Ex. Stock.	Test per Certificate.	Wght req'd per Rule.	Machine where Tested and Superintendent, also Name of Anchor Maker.
	Number of Certificate.	Fathoms.	Inches.								
Letter for do. <i>T</i>	14827	135	1 1/4	7 1/2 - 55 1/2		<i>Victorian</i>	19825	37.2.0	34.2.0		<i>River Wear Co.</i>
N. SAILS.	14828	135	1 1/4	" "	270.1 1/4		19828	27.2.17	34.6.1.0		<i>Victorian</i>
Fore Sails,							19826	32.2.15	30.13.3.0		<i>Victorian</i>
Fore Top Sails,											
Fore Topmast Stay Sails,											
Main Sails,											
Main Top Sails, and quality											
<i>Good.</i>											
Standing and Running Rigging											
The Windlass is											
Engine Room Skylights.											
Coal Bunker Openings.											
Scuppers, &c.											
Cargo Hatchways.											
State size											
If of extraordinary size, state how framed and secured...											
Order for Special Survey No. 2315											
Date 24 th Aug 1889											
Order for Ordinary Survey No. ✓											
Date ✓											
No. 435 in builder's yard.											
State dates of letters respecting this case											
General Remarks (State quality of workmanship, &c.)											

Standing and Running Rigging *are* sufficient in size and *good* in quality. She has *14* Long Boats and
The Windlass is *Iron Patent* Capstan *good* and Rudder *good* Pumps *good and efficient*
Engine Room Skylights.—How constructed? *Iron casing. Yeak over* How secured in ordinary weather? *Straps and screw bolts*
What arrangements for deadlights in bad weather? *Stant glass protected by brass gratings*
Coal Bunker Openings.—How constructed? *Cast iron frame. How are lids secured? *Payant coupling to frames. Solid hatches* Height above deck? *Frame. Flush in hatch coaming 24"*
Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? *(Fore well) 2 ports. 2 scuppers & 1 pipe.*
After well. 3 ports. 3 scuppers and 1 pipe.
Cargo Hatchways.—How formed? *Iron coamings & head ledges* Hatches, If strong and efficient? *Solid 3"*
State size *Main Hatch 11' 11" x 12' 0". Fore hatch 21' 6" x 15' 0".* *100 and 104* *each 18' 0" x 13' 0"*
If of extraordinary size, state how framed and secured... *✓* What arrangement for shifting beams? *Good**

Order for Special Survey No. 2315	1st. On the several parts of the frame, when in place, and before the plating was wrought	1889. Sept. 17. 20. 24. Oct. 1. 4. 8. 11. 15. 18. 22. 25. 29.
Date 24 th Aug 1889	2nd. On the plating during the process of riveting	Nov. 1. 5. 8. 12. 15. 19. 26. 29. Dec. 3. 7. 10. 11. 14. 20. 24. 27
Order for Ordinary Survey No. ✓	3rd. When the beams were in and fastened, and before the decks were laid...	1890. Jan. 10. 14. 17. 21. 24. 28. 31. Feb. 4. 7. 11. 14. 17. 21. 25. 28
Date ✓	4th. When the ship was complete, and before the plating was finally coated or cemented...	March 4. 7. 11. 14. 18. 21. 25. 28. April 1. 11. 15. 17. 22. May 1. 6
No. 435 in builder's yard.	5th. After the ship was launched and equipped	9. 13. Total No. of Visits 60
State dates of letters respecting this case		16/8/89. 13/9/89. 23/9/89. 28/9/89. 7/10/89. 2/11/89. 9/11/89.

General Remarks (State quality of workmanship, &c.)
This is a steel screw schooner with a topgallant forecabin, bridge, raised-quarter deck and a poop. She has been built in accordance with the approved plans attached hereto and with the Rules generally. The divisions of the cellular bottom and the peak tanks have been tested with water pressure and found to be satisfactory.
The materials and workmanship are good.

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

Particulars for Record in R.B.—Length of Poop *32* ft., R.Q.D. *64* ft., Bridge Dk., *114* ft., F'castle *29* ft.; No. of Dks. (excluding spar, awn, &c.) *1*
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) *1*
Official No. _____; Signal Letters _____ If double bottom, state particulars on separate form.

I am of opinion this Vessel should be Classed ** 100 A 1 "Steel"*
The amount of the Entry Fee£ *41* : *3* : *6* is received by me, *[Signature]*
Special£ *43* : *3* : *6* 20/5/1890
(to be sent as per margin). Certificate ...
Travelling Expenses, if any, £ ...
Committee's Minute *FRI 23 MAY 1890*
Character assigned *100 A 1 Steel*
18k S/L & web frames
well & d
[Signature]
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 by the Committee.
[Signature]