

# IRON SHIP.

No. 4351 Survey held at Glasgow

Date, First Survey 30 May 76

Last Survey 6 December 1876

On the SHIP "OPAWA"

Master Mc Innis

TONNAGE under Tonnage Deck 980.18 ~~ONE, OR TWO DECKED, THREE DECKED VESSEL.~~  
~~DATE, OR ANTI-DECKED VESSEL.~~  
 HALF BREADTH (moulded) 16.86 Feet.  
 DEPTH from upper part of Keel to top of Upper Deck Beams 22.7  
 GIRTH of Half Midship Frame (as per Rule) 34.41  
 1st NUMBER 73.97  
 2nd NUMBER 15.163  
 LENGTH 205  
 PROPORTIONS—Breadths to Length 6.0  
 Depths to Length—Upper Deck to Keel 9.0  
 Main Deck ditto 9.0

Built at Glasgow  
 When built 1876 Launched 14 Nov 1876  
 By whom built a Stephen & Sons  
 Owners New Zealand Shipping Co.  
 Port belonging to London  
 Destined Voyage New Zealand (Canterbury)  
 Surveyed while Building Afloat, or in Dry Dock  
under special survey.

LENGTH on deck as per Rule 205 Feet. Inches. BREADTH—Moulded 33 Feet. Inches. DEPTH top of Floors to Upper Deck Beams 20 Feet. Inches. Power of Engines — Horse. No. of Decks with flat laid TWO No. of Tiers of Beams TWO

Dimensions of Ship per Register, length, 215.2 breadth, 34.05 depth, 20.4

|  | Inches in Ship.    | Inches per Rule. |
|--|--------------------|------------------|
| KEEL, depth and thickness  | 8 x 2 3/8          | 8 x 2 3/8        |
| STEM, moulding and thickness   | 7 1/2 x 2 3/8      | 7 1/2 x 2 3/8    |
| STERN-POST for Rudder do. do.  | 6 1/8 x 3          | 7 1/2 x 2 3/8    |
| Distance of Frames from moulding edge to moulding edge, all fore and aft             | 23 in              | 23 in            |
| FRAMES, Angle Iron, for 1/2 length amidships   | 5 3 8/16           | 5 3 8/16         |
| Do. for 1/2 at each end  | 5 3 7/16           | 5 3 7/16         |
| REVERSED FRAMES, Angle Iron  | 3 3 7/16           | 3 3 7/16         |
| FLOORS, depth and thickness of Floor Plate at mid line for half length amidships     | 23 x 9/16          | 23 x 9/16        |
| thickness at the ends of vessel  | 8 1/16 - 7/16      | 8 1/16 - 7/16    |
| depth at 1/2 the half-bdth. as per Rule  | 15 PER SECTION     | 15 PER SECTION   |
| height extended at the Bilges  | 2 1/2 DEPTH        | 2 1/2 DEPTH      |
| BEAMS, Upper, <del>Single or double</del> Angle Iron, Plate or Tee Bulb Iron         | 8 x 8 1/16         | 8 x 8 1/16       |
| Single or double Angle Iron on Upper edge  | 3 3 6/16           | 3 3 6/16         |
| Average space  | 46 in              | 46 in            |
| BEAMS, Main, or Middle Deck  | 8 x 8 1/16         | 8 x 8 1/16       |
| Single or double Angle Iron, Plate or Tee Bulb Iron                                  | 8 x 8 1/16         | 8 x 8 1/16       |
| Single or double Angle Iron, on Upper Edge   | 3 3 6/16           | 3 3 6/16         |
| Average space  | 46 in              | 46 in            |
| BEAMS, Lower Deck, <del>Single or double</del> Angle Iron, Plate or Tee Bulb Iron    | 8 x 8 1/16         | 8 x 8 1/16       |
| Single or double Angle Iron on Upper Edge  | 3 3 6/16           | 3 3 6/16         |
| Average space  | 46 in              | 46 in            |
| KEELSONS Centre line, single or double plate, <del>1/2 in. or 1 1/2 in. plates</del> | 15 x 1 1/16        | 15 x 1 1/16      |
| " Rider Plate  | 11 1/2 x 1 1/16    | 11 x 1 1/16      |
| " <del>Both Plate to Intersecting Keelson</del>                                      | 5 x 3 1/2 x 8 1/16 | 5 3 1/2 8 1/16   |
| " Angle Irons  | 5 x 3 1/2 x 8 1/16 | 5 3 1/2 8 1/16   |
| " Double Angle Iron Side Keelson   | 5 x 3 1/2 x 8 1/16 | 5 3 1/2 8 1/16   |
| " <del>Side Intersecting Plate</del>   | 11 1/2 x 1 1/16    | 11 x 1 1/16      |
| " <del>do. Angle Irons</del>   | 5 x 3 1/2 x 8 1/16 | 5 3 1/2 8 1/16   |
| " <del>Attached to outside plating with angle iron</del>                             | 5 x 3 1/2 x 8 1/16 | 5 3 1/2 8 1/16   |
| BILGE Angle Irons  | 5 x 3 1/2 x 8 1/16 | 5 3 1/2 8 1/16   |
| " <del>do. Both Irons</del>  | 5 x 3 1/2 x 8 1/16 | 5 3 1/2 8 1/16   |
| " <del>do. Intersecting plates riveted to plating for — length</del>                 | 5 x 3 1/2 x 8 1/16 | 5 3 1/2 8 1/16   |
| BILGE STRINGER Angle Irons   | 5 x 3 1/2 x 8 1/16 | 5 3 1/2 8 1/16   |
| " <del>Intersecting plates riveted to plating for — length</del>                     | 5 x 3 1/2 x 8 1/16 | 5 3 1/2 8 1/16   |
| SIDE STRINGER Angle Irons  | 5 x 3 1/2 x 8 1/16 | 5 3 1/2 8 1/16   |

Plating in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges 9-19 9 1/4 - 10 1/16  
 of ~~double~~ single ~~or increased thickness~~ and length applied  
 fm up. part of Bilge to l. edge of Sh'rstrake 9-19 9 1/4 - 10 1/16  
 Main Sheerstrake, breadth and thickness 37 x 1 1/16 36 x 1 1/16  
 of ~~double~~ single ~~or increased thickness~~ and length applied  
 from ~~Mr. to Upper or Spar Deck~~ Up. or Spar Deck ~~Strake~~ Strake  
 Up. or Spar Deck ~~Strake~~ Strake ~~breadth and thickness~~  
 Butt Straps to outside plating, breadth & thickness 10 1/2 x 1 3/4 x 9 1/16 9 3/4 x 1 3/4 x 9 1/16  
 Lengths of Plating 6 spaced 3 in spaced  
 Shifts of Plating, and Stringers 3 4 3 in 4  
 Gunwale Plate on ends of ~~Upper, Spar, or~~ Upper Deck Beams, breadth and thickness 42 x 9/16 42 x 9/16  
 Angle Iron on ditto 5 x 3 1/2 x 8 1/16 5 x 3 1/2 x 8 1/16  
 Tie Plates fore and aft, outside Hatchways 12 x 9/16 12 x 9/16  
 Diagonal Tie Plates on Beams, No. of pairs —  
 Planksheer material and scantling 3 GUTTER  
 Waterways do. do. 3 GUTTER  
 Flat of Upper Deck do. do. 4 1/2 3 1/2  
 How fastened to Beams 8 1/2 in 3 in  
 Stringer Plate on ends of ~~Main or Middle Deck~~ Main or Middle Deck  
 Beams, breadth and thickness 30 1/2 x 8 1/16 30 x 8 1/16  
 Is the Stringer Plate attached to the outside plating? yes  
 Angle Irons on ditto, No. 2 3 1/2 x 3 1/2 x 8 1/16 3 1/2 x 3 1/2 x 8 1/16  
 Tie Plates, outside Hatchways 12 x 8 1/16 12 x 8 1/16  
 Diagonal Tie Plates on Beams, No. of pairs 2 12 x 8 1/16 12 x 8 1/16  
 Waterways materials and scantlings 3 3 3 in  
 Flat of Middle Deck do. do. 3 3 3 in  
 How fastened to Beams same both  
 Stringer Plates on ends of ~~Lower Deck, Hold or~~ Lower Deck, Hold or  
 Orlop Beams —  
 Is the Stringer Plate attached to the outside plating? yes  
 Angle Irons on ditto, No. —  
 Stringer or Tie Plates, outside Hatchways —  
 Flat of Lower Deck —  
 Ceiling betwixt Decks, thickness and material Batten 5 in  
 in hold do. do. 2 1/2 in 2 1/2  
 Main piece of Rudder, diameter at head 5 1/8 5 1/4  
 do. at heel 3 1/8 3  
 Can the Rudder be unshipped afloat? yes  
 Bulkheads No. one Thickness of 10 1/16 - 5/16 6 1/16 - 5/16  
 Height up Main Deck  
 How secured to sides of ship Suble frames  
 Size of Vertical Angle Irons 3 x 3 - 7/16 and distance apart 30 ins.  
 Are the outside Plates doubled two spaces of Frames in length? yes

Transoms, material. Knight-heads. Hawse Timbers. E. & Oak  
 Windlass Harfield & Co's Patent midships

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 one down to Gunwale and to Gunwale 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 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 - 3/4 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 - 3/4 in. diameter averaging 3 3/4 - 3 1/4 ins. from centre to centre.  
 Butts of ~~Storse~~ Strakes at Bilge for 1/2 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 3/4 in. diameter, averaging 3 1/4 ins. from cr. to cr.  
 Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 3/4 in. diameter, averaging 3 1/4 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 half length amidships. Butts of Upper or Spar Sheerstrake, treble riveted — length amidships.  
 Butts of Main Stringer Plate, treble riveted for half length amidships. Butts of Upper or Spar Stringer Plate, treble riveted for — length.  
 Breadth of laps of plating in double riveting 1 1/2 - 5/4 Breadth of laps of plating in single riveting —

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? Double & Treble as per rule  
 Waterway, how secured to Beams Gutter (Explain by Sketch, if necessary.)  
 Beams of the various Decks, how secured to the sides? Beam knees Riveted to frames No. of Breasthooks, 5 Crutches, 3  
 What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Angle Iron. "New end"  
 Manufacturer's name or trade mark, Stokes "Fox Head" Reg.

The above is a correct description.  
 Builder's Signature, Ally Stephen & Sons Surveyor's Signature, James Pindie  
 Surveyor to Lloyd's Register of British and Foreign Shipping.

IRON 469-031



Workmanship. Are the butts of plating planed or otherwise fitted? *Planed where practicable*  
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? *Very few and in butts only*

Masts, Bowsprit, Yards, &c., are *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 *Fore Mast 78 feet 10 in x 29 in Main 82.4 x 29*  
*Mizen 73.2 x 25 in Three plates in round 7/16 - 6/16. (Mizen 4/16 - 5/16) Edges zig zag Butts butts.*  
*Bowsprit 34 ft. 8 in x 24 in Four plates in the round 8/16 to 6/16. Edges*  
*zig zag. Butts. Ribs and 2nd. aduable -*

| NUMBER for EQUIPMENT |                         | Fathoms. | Inches. | Test per Certificate. | Length & Size req'd per Rule. | Test req'd per Rule. | ANCHORS. | N <sup>o</sup> . | Weight. Ex. Stock. | Test per Certificate. | W'ght req'd per Rule. | Test req'd per Rule. |
|----------------------|-------------------------|----------|---------|-----------------------|-------------------------------|----------------------|----------|------------------|--------------------|-----------------------|-----------------------|----------------------|
| SAILS.               |                         |          |         |                       |                               |                      | Bowers   |                  |                    |                       |                       |                      |
| N <sup>o</sup> .     | CABLES, &c.             |          |         |                       |                               |                      |          |                  |                    |                       |                       |                      |
|                      | Chain                   |          |         |                       |                               |                      |          |                  |                    |                       |                       |                      |
|                      | Fore Sails,             |          |         |                       |                               |                      |          |                  |                    |                       |                       |                      |
|                      | Fore Top Sails,         |          |         |                       |                               |                      |          |                  |                    |                       |                       |                      |
|                      | Fore Topmast Stay Sails |          |         |                       |                               |                      |          |                  |                    |                       |                       |                      |
|                      | Main Sails,             |          |         |                       |                               |                      |          |                  |                    |                       |                       |                      |
|                      | Main Top Sails,         |          |         |                       |                               |                      |          |                  |                    |                       |                       |                      |
|                      | and                     |          |         |                       |                               |                      |          |                  |                    |                       |                       |                      |

Standing and Running Rigging *More Main* sufficient in size and *good* in quality. She has *2 life long* Boats and *four* others.  
The Windlass is *Barfield's patent* Capstan *rollers* and Rudder *good* Pumps *two* such with *bars* chambers.

Engine Room Skylights. How constructed? *How secured in ordinary weather?*  
What arrangements for leadlights 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? *Five square ports on each side*

Cargo Hatchways.—How formed? *Iron coming*  
State size Main Hatch *14.2 x 11.1* Forehatch *7.9 x 6.2* Quarterhatch *8 feet x 7.7*

If of extraordinary size, state how framed and secured?  
What arrangement for shifting beams? *Built iron and angles.*

Hatches, If strong and efficient? *yes.*

Order for Special Survey No. *1174*  
Date *June 5/96*  
Order for Ordinary Survey No. *203*  
Date *June 5/96*  
No. *203* in builder's yard.  
1st. On the several parts of the frame, when in place, and before the plating was wrought *May 30, June 13, 23, 27, 30, July 4, 11, 24, 28.*  
2nd. On the plating during the process of riveting *31 Aug. 7, 9, 18, 22, 28 Sept. 1, 7, 11, 15, 18.*  
3rd. When the beams were in and fastened, and before the decks were laid.... *21, 25, 28 October 2, 5, 9, 12, 20, 23, 27, 31*  
4th. When the ship was complete, and before the plating was finally coated or cemented.. *Nov. 3, 7, 9, 13, 17, 23, 25 Dec. 6. (1896)*  
5th. After the ship was launched and equipped

General Remarks (State quality of workmanship, &c.) *Iron yards -*

*Fore Main yards 76 feet x 19 in Pro plates in round 6/16. 4/16. Edges zig zag and*  
*Iron Lower Caprail 62 - x 15 - 5/16 - 3/16. Butts butts in steel*

The Main piece of Rudder is 5/8 instead of 5/4 in dia. required by Rule on calling attention to this deficiency - Builders after investigation state that the mould of Rudder had shrank and the Ironman smith unfortunately made Rudder from the shrunken mould without referring to size on section, but this exception she has been constructed in accordance with approved midship section herewith. So well built and nothing in my opinion of the class recommended below -

*Deck House 31.8.14.7*

State if one, two, or three, decked vessel, or if open, or covering deck; and the lengths of poop, forecabin, or raised quarter deck, and the length of double, or part double bottom.

How are the surfaces preserved from oxidation? Inside *Cement in bottom Paint above* 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 5th*

Special ... £ 51 : 18 : " Dec 1876

Certificate ... *Granta*

(Travelling Expenses, if any, £ ...)

Committee's Minute *8th December 1896*

Character assigned *100 A.1*

*TRM*

*Lloyd's Register*