

IRON SHIP.

No. 4098 Survey held at Dundee Date, First Survey Mar. 1st / 77 Last Survey Oct. 31st / 77 18 77
On the BK "Stuart" Master Furman

TONNAGE under Tonnage Deck } 855.19 ONE, OR TWO DECKED, THREE DECKED VESSEL.
Ditto of Third, Spar, or Awning Deck } SPAR, OR AWNING DECKED VESSEL.
Ditto of Third, Spar, or Awning Deck } HALF BREADTH (moulded) 14.0 Feet.
Ditto of Raised Qr. Dk. } 32.88 DEPTH from upper part of Keel to top of Upper Deck Beam 31.54
Ditto of Houses } 23.41 GIRTH of Half Midship Frame (as per Rule) 33.64
Ditto of Forecastle } 18.66 1st NUMBER 72.18
Gross Tonnage } 911.78 1st NUMBER, if a THREE-DECKED VESSEL
Less Crew Space } 30.40 LENGTH 195.0 [deduct 7 feet.
Less Engine Room } PROPORTIONS—Breadths to Length over 5
Register Tonnage } 881.38 Depths to Length—Upper Deck to Keel over 9
as cut on Beam } Main Deck ditto

Built at Dundee
When built 1877 Launched 10th Sep / 77
By whom built Messrs A. Stephen & Son
Owners Messrs John Hay & Co
Port belonging to Liverpool
Destined Voyage Middleborough for
If Surveyed while Building, Afloat, or in Dry Dock.
While Building & Afloat.

LENGTH on deck as per Rule ... 195 Feet. Inches. BREADTH—Moulded ... 34 Feet. Inches. DEPTH top of Floors to Upper Deck Beams ... 19 Feet. Inches. 1 1/2 Power of Engines ... ✓ No. of Decks with flat laid One and No. of Tiers of Beams Two

Dimensions of Ship per Register, length 202.5 breadth, 34.2 depth, 19.1

	Inches in Ship.	Inches per Rule.		Inches in Ship.	Inches per Rule.
KEEL, depth and thickness	<u>8 x 2 3/8</u>	<u>8 x 2 3/8</u>	STEM, moulding and thickness	<u>7 1/2 x 2 3/8</u>	<u>7 1/2 x 2 3/8</u>
STERN-POST for Rudder do. do.	<u>7 1/2 x 2 3/8</u>	<u>7 1/2 x 2 3/8</u>	STERN-POST for Propeller	<u>7 1/2 x 2 3/8</u>	<u>7 1/2 x 2 3/8</u>
Distance of Frames from moulding edge to moulding edge, all fore and aft	<u>23</u>	<u>23</u>			
FRAMES, Angle Iron, for 2/3 length amidships	<u>4 1/2 x 3</u>	<u>4 1/2 x 3</u>	Do. for 1/3 at each end	<u>4 1/2 x 3</u>	<u>4 1/2 x 3</u>
REVERSED FRAMES, Angle Iron	<u>3 x 3</u>	<u>3 x 3</u>			
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships	<u>29 x 9</u>	<u>22 1/2 x 9</u>	thickness at the ends of vessel	<u>14</u>	<u>11 1/2</u>
depth at 3/4 the half-bdth. as per Rule	<u>51</u>	<u>45</u>	height extended at the Bilges	<u>8 x 8</u>	<u>8 x 8</u>
BEAMS, Upper, Spar, or Awning Deck Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	<u>8 x 8</u>	<u>8 x 8</u>	Single or double Angle Iron on Upper edge	<u>3 x 3</u>	<u>3 x 3</u>
Average space	<u>46</u>	<u>46</u>			
BEAMS, Main, or Middle Deck Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	<u>8 1/2 x 8</u>	<u>8 1/2 x 8</u>	Single, or double Angle Iron, on Upper Edge	<u>3 x 3</u>	<u>3 x 3</u>
Average space	<u>46</u>	<u>46</u>			
BEAMS, Lower Deck, Hold, or Orlop Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	<u>8 1/2 x 8</u>	<u>8 1/2 x 8</u>	Single or double Angle Iron on Upper Edge	<u>3 x 3</u>	<u>3 x 3</u>
Average space	<u>46</u>	<u>46</u>			
KEELSONS Centre line, single or double plate, box, or Intercostal Plates	<u>14 1/2 x 11</u>	<u>14 x 11</u>	" Rider Plate	<u>11 x 11</u>	<u>10 3/4 x 11</u>
" Bulb Plate to Intercostal Keelson	<u>5 3 1/2 x 7</u>	<u>5 3 1/2 x 7</u>	" Angle Irons	<u>5 3 1/2 x 7</u>	<u>5 3 1/2 x 7</u>
" Double Angle Iron Side Keelson	<u>5 3 1/2 x 7</u>	<u>5 3 1/2 x 7</u>	" Side Intercostal Plate for 2/3 length	<u>5 3 1/2 x 7</u>	<u>5 3 1/2 x 7</u>
" do. Angle Irons	<u>5 3 1/2 x 7</u>	<u>5 3 1/2 x 7</u>	" Attached to outside plating with angle iron	<u>3 x 3</u>	<u>3 x 3</u>
BILGE Angle Irons	<u>5 3 1/2 x 7</u>	<u>5 3 1/2 x 7</u>	" do. Bulb Iron	<u>5 3 1/2 x 7</u>	<u>5 3 1/2 x 7</u>
" do. Intercostal plates riveted to plating for length	<u>5 3 1/2 x 7</u>	<u>5 3 1/2 x 7</u>			
BILGE STRINGER Angle Irons	<u>5 3 1/2 x 7</u>	<u>5 3 1/2 x 7</u>			
Intercostal plates riveted to plating for length	<u>5 3 1/2 x 7</u>	<u>5 3 1/2 x 7</u>			
SIDE STRINGER Angle Irons	<u>5 3 1/2 x 7</u>	<u>5 3 1/2 x 7</u>			

	Inches in Ship.	16ths in Ship.	Inches per Rule.	16ths per Rule.
Flat Keel Plates, breadth and thickness	<u>34</u>	<u>10</u>	<u>34 x 10</u>	<u>9</u>
PLATES in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges of doubling at Bilge, or increased thickness, and length applied	<u>36 1/2</u>	<u>11</u>	<u>36 x 11</u>	<u>9</u>
fm up. part of Bilge to lr. edge of Sh'rstrake Main Sheerstrake, breadth and thickness of d'bling at Sh'rstrake, & length applied from Mn. to Up. or Spar Dk. Sh'rstrake, Up. or Spar Dk. Sh'rstrake, brdth & thickness	<u>14 1/2 x 10 1/16</u>	<u>11 1/2 x 10 1/16</u>	<u>14 1/2 x 10 1/16</u>	<u>9 3/4 x 9 1/16</u>
Butt Straps to outside plating, breadth & thickness Lengths of Plating	<u>5 frames</u>	<u>5 frames</u>	<u>5 frames</u>	<u>5 frames</u>
Shifts of Plating, and Stringers	<u>2 frames</u>	<u>2 frames</u>	<u>2 frames</u>	<u>2 frames</u>
Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness	<u>46</u>	<u>9</u>	<u>40</u>	<u>9</u>
Angle Iron on ditto	<u>4 1/2 x 4 x 7/16</u>	<u>5 x 3 1/2 x 7/16</u>	<u>4 1/2 x 4 x 7/16</u>	<u>5 x 3 1/2 x 7/16</u>
Tie Plates fore and aft, outside Hatchways Diagonal Tie Plates on Beams No. of Pairs, 2	<u>11</u>	<u>9</u>	<u>11</u>	<u>9</u>
Planksheer material and scantling Waterways do. do. } <u>Gutter</u> Flat of Upper Deck do. do. } <u>Y.P.</u> How fastened to Beams <u>galv. screws bolts</u> Stringer Plate on ends of Main or Middle Deck Beams, breadth and thickness	<u>11</u>	<u>9</u>	<u>11</u>	<u>9</u>
Is the Stringer Plate attached to the outside plating?	<u>32</u>	<u>8</u>	<u>29</u>	<u>8</u>
Angle Irons on ditto, No. Tie Plates, outside Hatchways	<u>32</u>	<u>8</u>	<u>29</u>	<u>8</u>
Diagonal Tie Plates on Beams, No. of pairs Waterways materials and scantlings	<u>11</u>	<u>8</u>	<u>11</u>	<u>8</u>
Flat of Middle Deck do. do. How fastened to Beams	<u>11</u>	<u>8</u>	<u>11</u>	<u>8</u>
Stringer Plates on ends of Lower Deck, Hold or Orlop Beams	<u>32</u>	<u>8</u>	<u>29</u>	<u>8</u>
Is the Stringer Plate attached to the outside plating?	<u>32</u>	<u>8</u>	<u>29</u>	<u>8</u>
Angle Irons on ditto, No. Tie Plates, outside Hatchways	<u>11</u>	<u>8</u>	<u>11</u>	<u>8</u>
Stringer or Tie Plates, outside Hatchways Flat of Lower Deck	<u>11</u>	<u>8</u>	<u>11</u>	<u>8</u>
Ceiling betwixt Decks, thickness and material in hold do. do.	<u>2 1/2</u>	<u>2 1/2</u>	<u>2 1/2</u>	<u>2 1/2</u>
Main piece of Rudder, diameter at head do. at heel	<u>5</u>	<u>3</u>	<u>5</u>	<u>3</u>
Can the Rudder be unshipped afloat?	<u>300</u>		<u>300</u>	
Bulkheads No. <u>One</u> Thickness of Height up <u>20</u> Main Deck	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>

Transoms, material. Knight-heads. Hawse Timbers. Plates & angles
Windlass of Iron. Pall Bitt Harfield's Patent

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 gunwale 8 to 6 and to cr. st alternately
KEELSONS. Are the various lengths of Plates and Angle Irons properly connected? 300. And butts properly shifted? 300.

PLATING. Garboard, double riveted to Keel, with rivets 1/8 in. diameter, averaging 5 5/8 ins. from centre to centre.
Edges of Garboards and to upper part of Bilge, worked clench, double riveted; with rivets 3/4 in. diameter, averaging 3 1/4 ins. from centre to centre.
Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 3/4 in. diameter averaging 3 1/4 ins. from centre to centre.
Butts of Three 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 clench, double 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 whole length amidships. Butts of Upper or Spar Sheerstrake, treble riveted ✓ length amidships.
Butts of Main Stringer Plate, treble riveted for 3/5 length amidships. Butts of Upper or Spar Stringer Plate, treble riveted for ✓ length.
Breadth of laps of plating in double riveting 5 1/2 x 4 3/4. Breadth of laps of plating in single riveting 2 7/8.

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double, single Riveted?
Waterway, how secured to Beams Gutter. (Explain by Sketch, if necessary.)
Beams of the various Decks, how secured to the sides? Solid welded knees No. of Breasthooks, two Crutches, three
What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Good
Manufacturer's name or trade mark, Floor's & Shell plates from Foxhead & Co; Frame Angles & Bulb Iron, Messrs & Coatbridge

The above is a correct description
Builder's Signature, Alie Stephen & Sons Surveyor's Signature, J. L. Dinnel
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? *In a few cases at the butts.*

Masts, Bowsprit, Yards, &c., are *of Iron* 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. *Yes*

State also Length and Diameter of Lower Masts and Bowsprit -

Plates from Forehead &c
Fore mast. Length *84 ft.*, at Heel $18\frac{1}{2} \times \frac{1}{4}$, at Partners, $25\frac{1}{2} \times \frac{1}{4}$, at Head $16\frac{1}{2} \times \frac{1}{4}$; Plates in round. 4.
Main " " $78\frac{1}{2}$ " " $18\frac{1}{2} \times \frac{1}{4}$ " " $25\frac{1}{2} \times \frac{1}{4}$ " " $16\frac{1}{2} \times \frac{1}{4}$ " " 4.
Mizen " " $105\frac{1}{2}$ " " $14 \times \frac{1}{4}$ " " $19 \times \frac{1}{4}$ " " $5\frac{1}{2} \times \frac{1}{4}$ " " 2.
Bowsprit outside bed $21\frac{1}{2}$ " " $21 \times \frac{1}{4}$ " " $26 \times \frac{1}{4}$ " " $16 \times \frac{1}{4}$ " " 4.

NUMBER for EQUIPMENT *15013*

No.	SAILS.	CABLES, &c.	Fathoms.	Inches.	Test per Certificate.	Length & Size req'd per Rule.	Test req'd per Rule.	ANCHORS.	No.	Weight. Ex. Stock.	Test per Certificate.	Wght req'd per Rule.	Test req'd per Rule.
		Chain	<i>270</i>	$1\frac{1}{4}$	<i>57\frac{1}{4}</i>	<i>270, 1\frac{1}{4}</i>	<i>57\frac{1}{4}</i>	Bowers	1.	<i>29.0.0</i>	<i>27.17.0.0</i>	<i>29.0.0</i>	<i>27.17.0.0</i>
	Fore Sails,	(State Machine where Tested, Date, & name of Superintendent)											
<i>heavily</i>	Fore Top Sails,								1.	<i>26.0.14</i>	<i>25.14.1.14</i>	<i>26.0.14</i>	<i>25.14.1.14</i>
<i>Two</i>	Fore Topmast Stay Sails	Hmpn Strm Cbl	<i>90</i>	$1\frac{1}{2}$		<i>90-15</i>			1.	<i>23.3.14</i>	<i>23.15.2.14</i>	<i>23.3.14</i>	<i>23.15.2.14</i>
<i>Complete</i>	Main Sails,	Hawser ...	<i>90</i>	$1\frac{1}{2}$		<i>90-9</i>							
<i>Suits.</i>	Main Top Sails,	Towlines ...	<i>90</i>	$1\frac{1}{2}$		<i>90-5\frac{1}{2}</i>		Stream	1	<i>11.0.0</i>	<i>10.17.2.0</i>	<i>11.0.0</i>	<i>10.17.2.0</i>
	and	Warp ...	<i>120</i>	$1\frac{1}{2}$				Kedges	1	<i>5.2.14</i>	<i>7.2.2.0</i>	<i>5.2.0</i>	<i>7.2.2.0</i>
		quality <i>good</i> and others.											

Standing and Running Rigging *Mixed Hemp* sufficient in size and *good* in quality. She has *2-28 ft* Long Boats and *Six other boat*

The Windlass is *good & efficient*. Capstan *efficient* and Rudder *efficient*. Pumps *good & efficient*. *2 h^o 10 min*

Engine Room Skylights.—How constructed? *✓*

How secured in ordinary weather? *✓*

What arrangements for deadlights 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?

Four pair of Scuppers and three pair of ports.

Cargo Hatchways.—How formed?

Plate Comings attached to fore & aft Carluys &c.

State size Main Hatch *11-6 to beam 7-6 before it 19-0 x 10-0* Fore hatch *7-8 x 5-0* Quarter hatch *7-8 x 5-0*

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

What arrangement for shifting beams? *Saddle beam in main hatch as above and a wood fore & after.*

Hatches, If strong and efficient?

Yes

Order for Special Survey No. *358*

Date *10th May/77*

Order for Ordinary Survey No. *✓*

Date *✓*

No. *67* 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
- 2nd. On the plating during the process of riveting
- 3rd. When the beams were in and fastened, and before the decks were laid...
- 4th. When the ship was complete, and before the plating was finally coated or cemented...
- 5th. After the ship was launched and equipped

Specially surveyed 1877.
May 1. 2. 8. 15. 22. 23. 29: April 3. 11. 17. 23:
May 14. 22. June 1. 6. 13. 21: July 2. 4.
9. 11. 16. 19. 24. 26: Aug 1. 7. 17. 23. 27. 31: Sep
6. 10. 13. 19. 24. 28: Oct 2. 4. 8. 11. 22. 25. 31.

General Remarks (State quality of workmanship, &c.) *Workmanship and Materials good.*

This vessel has been constructed in accordance with the accompanying tracings 2 h^o submitted and approved See Letter 19th Jan/77.

She has a monkey forecabin, also a raised quarter deck of the scantlings and arrangements as shown on the tracings

Raised Q^d deck 33 ft long from after part of stern post, and 3-6 high: beams 82 9/16 bulbs and double angles 3 x 3 x 6/16, Stringer 36 x 7/8; tie plates 9 x 7/16 and flat of deck 3/4 thick

The whole of the built straps for outside plating in this ship from keel to gunwale are treble riveted and the straps increased 1/6 where required by the Rules.

Alfred Stephen & Sons

State if one, two, or three, decked vessel, or if open, or running decked, and the lengths of *monkey 24 ft* forecabin, or raised quarter deck, and the length of double, or part double bottom.

How are the surfaces preserved from oxidation? Inside *Cemented to upper part of bilge & 3 coats of paint* Outside *Four coats of paint*

I am of opinion this Vessel should be Classed *100 A.1.*

The amount of the Entry Fee ... £ *5:0:0* is received by me,
Special ... £ *44:1:0* Oct 31st 1877
Certificate ...

(Travelling Expenses, if any, £ *✓*).

Committee's Minute *2nd November, 1877.*

Character assigned *100 A.1.*

This vessel appears eligible to be classed as recommended by 100 A.1. Lloyd's Register Foundation